



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)  
BOARD AND CODE ADMINISTRATION DIVISION

## NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION  
11805 SW 26 Street, Room 208  
T (786) 315-2590 F (786) 315-2599  
[www.miamidade.gov/economy](http://www.miamidade.gov/economy)

Sunshine Windows Manufacturing, Inc.

1745 W 33<sup>rd</sup> Place  
Hialeah, FL 33012

### SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

### DESCRIPTION: Clipped, Extruded Aluminum Tube Mullion – L.M.I.

**APPROVAL DOCUMENT:** Drawing No.M2011, titled "Aluminum Tube Mullion L.M.I.," sheets 1 through 21 of 21, dated 02/11/13, prepared by manufacturer, signed and sealed by Francisco Hernandez, P.E., bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Section.

### MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA and consists of this page 1 and evidence page E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by Manuel Perez, P.E.



*MP*  
3/19/13

NOA No. 11-1216.02  
Expiration Date: March 28, 2018  
Approval Date: March 28, 2013  
Page 1

**Sunshine Windows Manufacturing, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. Manufacturer's die drawings and sections.
2. Drawing No **M2011**, Sheets 1 through 21 of 21, titled "Aluminum Tube Mullion L.M.I.", dated 02/11/13, prepared by manufacturer, signed and sealed by Francisco Hernandez, P.E.

**B. TESTS**

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94  
2) Large Missile Impact Test per FBC, TAS 201-94  
3) Cyclic Wind Pressure Loading per FBC, TAS 203-94  
along with marked-up drawings and installation diagram of aluminum fixed windows mulled together using different sizes of rectangular and round aluminum tube mullions, prepared by Fenestration Testing Laboratory, Inc. Test Report No. **FTL-7067**, dated 09/26/12, signed and sealed by Marlin D. Brinson, P.E.

**C. CALCULATIONS**

1. Anchor verification calculations and structural analysis, complying with FBC-2010, dated 11/22/11 and revised on 02/25/13, prepared, signed and sealed by Francisco Hernandez, P.E.
2. Glazing complies with ASTM E1300-04

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

**E. MATERIAL CERTIFICATIONS**

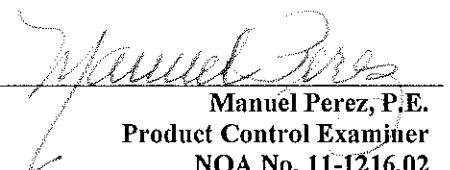
1. None.

**F. STATEMENTS**

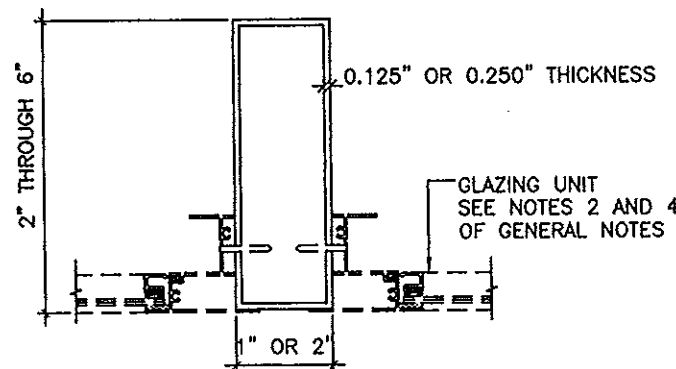
1. Statement letter of conformance, complying with the FBC-2010, and of no financial interest, dated February 23, 2013, signed and sealed by Francisco Hernandez, P.E.
2. Proposal No. **11-1216.02** issued by Product Control, dated January 31, 2012, signed by Manuel Perez, P. E.

**G. OTHERS**

1. None.

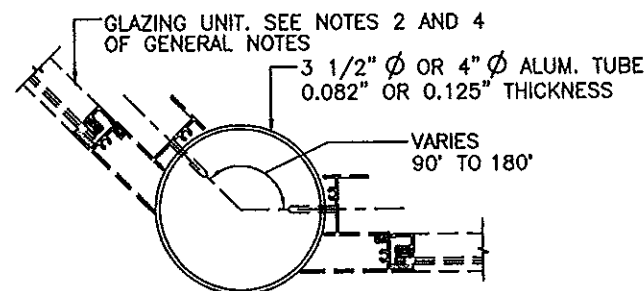
  
Manuel Perez, P.E.  
Product Control Examiner  
NOA No. 11-1216.02

Expiration Date: March 28, 2018  
Approval Date: March 28, 2013



### VERTICAL OR HORIZONTAL RECTANGULAR MULLIONS

SEE MULLION DESIGN LOADS (MULLION CAPACITY) TABLE # 1 ON SHEET 4 OF 22.  
SEE ANCHOR DESIGN LOADS (ANCHOR CAPACITY) TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.



### VERTICAL ROUND TUBE MULLION

SEE MULLION DESIGN LOADS (MULLION CAPACITY) AND  
ANCHOR DESIGN LOADS (ANCHOR CAPACITY) TABLE # 4 ON SHEET 6 OF 21.

### INDEX OF DRAWINGS

- 1 OF 22 .- MULLION SECTIONS, GENERAL NOTES AND PROCEDURE FOR MULLION SELECTION.
- 2 OF 21 .- MULLION SHAPES, ANCHOR CLIPS AND ANCHOR CLIPS LOCATION DETAILS.
- 3 OF 21 .- TABLE # 1. MULLION DESIGN LOADS (MULLION CAPACITY) FOR RECTANGULAR MULLIONS.
- 4 OF 21 .- TABLE # 2. ANCHOR DESIGN LOADS (ANCHOR CAPACITY) FOR RECTANGULAR MULLIONS.
- 5 OF 21 .- TABLE # 3. ANCHOR DESIGN LOADS (ANCHOR CAPACITY) FOR RECTANGULAR MULLIONS.
- 6 OF 21 .- TABLE # 4. MULLION AND ANCHOR DESIGN LOADS (MULLION AND ANCHOR CAPACITIES) FOR ROUND MULLIONS.
- 7 OF 21 .- ANCHOR CONFIGURATION TYPE A1 ON CONCRETE OR MASONRY WITH 1BY WOOD BUCK.
- 8 OF 21 .- ANCHOR CONFIGURATION TYPE A1 ON WOODEN STRUCTURE OR 2BY WOOD BUCK.
- 9 OF 21 .- ANCHOR CONFIGURATION TYPE A2 ON CONCRETE OR MASONRY WITH 1BY WOOD BUCK AND ON WOODEN STRUCTURE OR 2BY WOOD BUCK.
- 10 OF 21 .- ANCHOR CONFIGURATION TYPE A3 ON CONCRETE OR MASONRY WITH 1BY WOOD BUCK AND ON WOODEN STRUCTURE OR 2BY WOOD BUCK.
- 11 OF 21 .- ANCHOR CONFIGURATION TYPE A3 ON CONCRETE OR MASONRY WITH 1BY WOOD BUCK AND ON WOODEN STRUCTURE OR 2BY WOOD BUCK FOR 2" X 6" MULLION.
- 12 OF 21 .- ANCHOR CONFIGURATION TYPE B1 ON CONCRETE OR MASONRY.
- 13 OF 21 .- ANCHOR CONFIGURATION TYPE B2 AND B3 ON CONCRETE OR MASONRY.
- 14 OF 21 .- ANCHOR CONFIGURATION TYPE B3 ON CONCRETE OR MASONRY.
- 15 OF 21 .- ANCHOR CONFIGURATION TYPE C1 ON METALLIC STRUCTURE.
- 16 OF 21 .- ANCHOR CONFIGURATION TYPE C2 ON METALLIC STRUCTURE.
- 17 OF 21 .- ANCHOR CONFIGURATION TYPE C3 ON METALLIC STRUCTURE.
- 18 OF 21 .- ANCHOR CONFIGURATIONS TYPE D2, D3 AND D4. MULLION TO MULLION CONNECTIONS.
- 19 OF 21 .- ROUND MULLIONS. TOP VIEWS FOR ANCHOR CONFIGURATIONS TYPE BR2, BR3, CR2 AND CR3.
- 20 OF 21 .- ROUND MULLIONS. TOP VIEWS FOR ANCHOR CONFIGURATION TYPE BR4 AND CR4.
- 21 OF 21 .- ROUND MULLIONS. SIDE VIEWS FOR ANCHOR CONFIGURATIONS TYPE BR2, BR3, BR4, CR2, CR3 AND CR4.

### GENERAL NOTES:

- 1.- THIS PRODUCT MEETS THE REQUIREMENTS OF THE 2010 FLORIDA BUILDING CODE.
- 2.-MULLIONS SHALL BE USED ALONG WITH SEPARATE APPROVED GLAZING UNITS MEETING THE 2010 FLORIDA BUILDING CODE REQUIREMENTS. USE GLAZING UNIT APPROVAL TO SPECIFY FASTENER SIZE AND SPACING.
- 3.- TYPE OF ANCHORS: FOR ATTACHMENT INTO CONCRETE OR MASONRY WITH 1BY, 2BY OR WOODEN STRUCTURES USE 1/4" DIAM. TAPCON BY "ITW BUILDEX" (NOA No.07-1126.10); FOR ATTACHMENT TO METAL STRUCTURES, OR METAL TO METAL CONNECTIONS USE 1/4" DIAM. GRADE 5 SHEET METAL SCREWS.
- 4.- THE DESIGN PRESSURES SHOWN ON THE CHARTS ARE BASED ON TUBE STRENGTH ONLY. NO CONTRIBUTION OF ATTACHED GLAZING UNITS ARE CONSIDERED.
- 5.- FOR DETAILS OF ATTACHMENT BETWEEN MULLIONS AND STRUCTURES REFER TO SHEETS 7 THROUGH 21 OF THIS PRODUCT APPROVAL.
- 6.- WOOD BUCKS BY OTHER SHALL BE PROPERLY ATTACHED TO TRANSFER GLAZING SYSTEM LOADS TO THE STRUCTURE AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO MULLION INSTALLATION.
- 7.- THE THICKNESS OF THE STEEL/ALUMINUM HOST STRUCTURE SHALL BE NOT LESS THAN 1/8". ALUMINUM SHALL BE 6063-T6 AND STEEL SHALL BE  $F_y = 36$  ksi MIN.
- 8.- TUBE MATERIAL SHALL BE ALUMINUM ALLOY 6063-T6.
- 9.- ALL ANCHORS INSTALLED IN THE STEEL/ALUMINUM HOST STRUCTURE SHALL HAVE 1" MINIMUM TO THE EDGE OF THE STRUCTURAL MEMBERS.
- 10.- WOOD HOST STRUCTURE SHALL BE "SOUTHERN YELLOW PINE"  $G=0.55$  OR GREATER DENSITY. ALL ANCHORS INSTALLED IN WOOD SHALL HAVE 1" MINIMUM TO THE EDGE OF THE STRUCTURAL MEMBERS WITH 1 3/8" MIN. EMBEDMENT.
- 11.- CONCRETE STRENGTH:  $f'_c=3,200$  psi MIN., CMU PER ASTM C90, GROUT FILLED CMU  $f_m=2,000$  psi MIN. ALL ANCHORS INSTALLED IN CONCRETE SHALL HAVE 2 1/2" MINIMUM DIST. TO THE STRUCTURAL MEMBERS WITH 1 3/4" MIN. EMBEDMENT. (EXCLUDING STUCCO, FOAM, BRICK AND OTHER WALL FINISHES).
- 12.- MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL BE PROTECTED IN ACCORDANCE WITH THE SECTION 2003.8.4 OF THE 2010 FLORIDA BUILDING CODE.

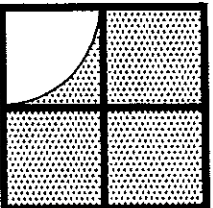
### PROCEDURE FOR MULLION SELECTION

1. DETERMINE THE DESIGN PRESSURE BY COMPUTING THE WIND LOAD IN PSF ACTING ON THE MULLION AS PER 2010 FLORIDA BUILDING CODE.
2. USE MULLION DESIGN LOAD (MULLION CAPACITY) TABLES # 1 AND # 4 ON SHEETS 3 AND 6 OF 21 TO DETERMINE THE MULLION SECTION REQUIRED TO MEET THE DESIGN PRESSURE.
3. USE TABLES # 2, # 3 AND # 4 ON SHEETS 4, 5 AND 6 OF 21 TO DETERMINE THE TYPE OF CONNECTION BETWEEN THE MULLION AND THE STRUCTURE TO MEET THE DESIGN LOAD (MULLION CAPACITY).
4. HIGHLIGHT MULLION AND ANCHOR SELECTED OPTIONS AND CORRESPONDING TABLE VALUES OBTAINED IN A SPECIFIC APPLICATION WHEN USING THIS NOA TO APPLY FOR A PERMIT.

Approved as complying with the  
Florida Building Code  
Date March 29, 2013  
NOA# 13-0001  
Miami Dade Product Control

By Francisco Hernandez

2-25-13  
FRANCISCO HERNANDEZ  
FLORIDA PE # 51393



Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
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Fax: (305)828-5118

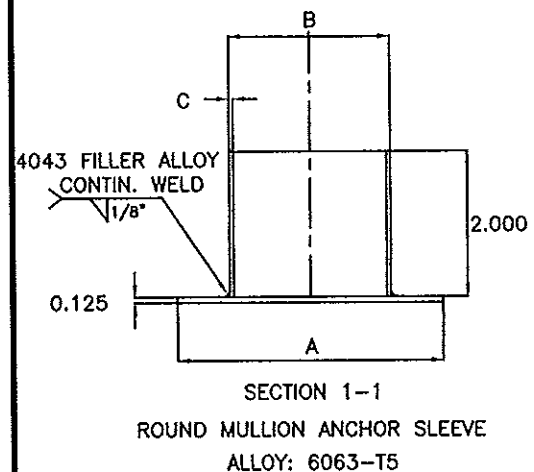
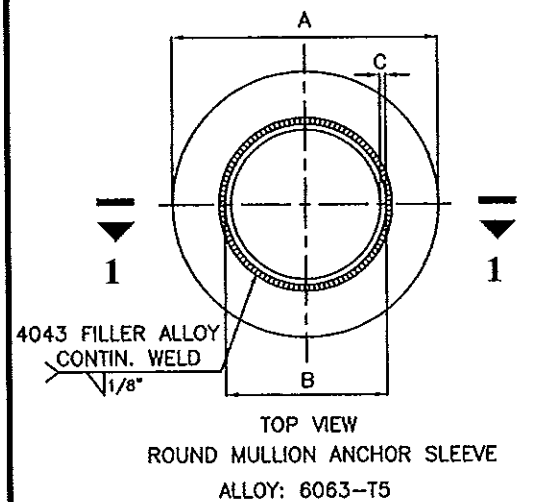
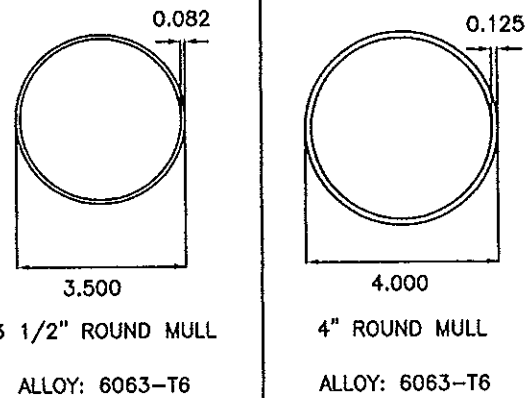
ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 02-11-13  
Scale: 1/2" = 1"  
Revision:  
Revision:

DRAWING NO.  
M2011

SHEET  
1 OF 21

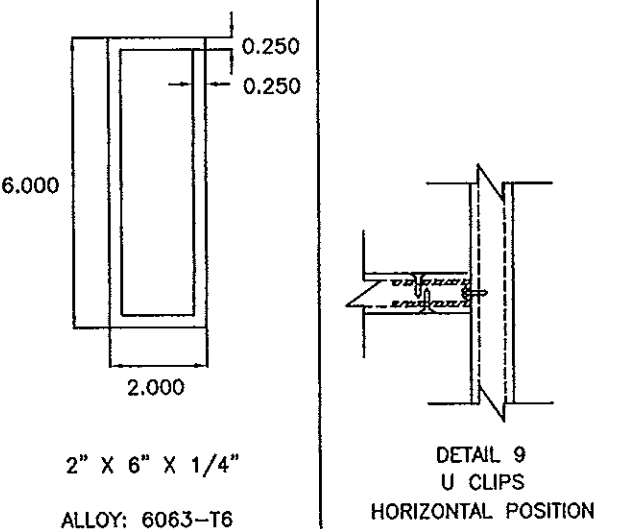
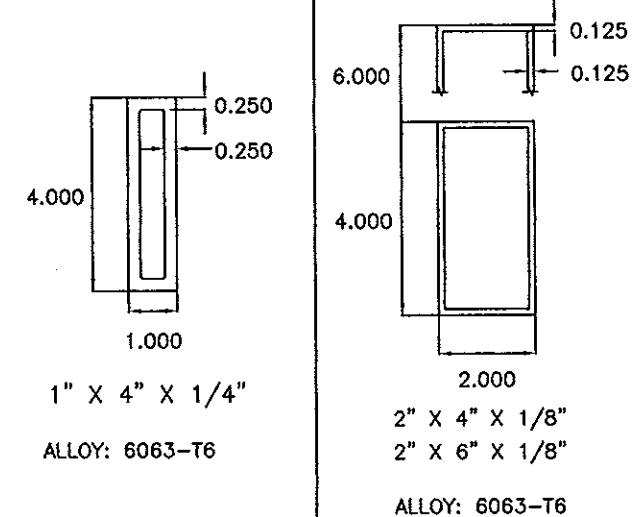
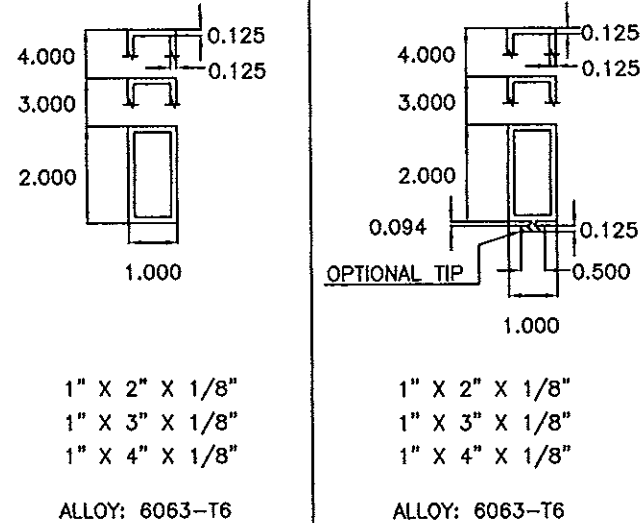
## ROUND MULLIONS CROSS SECTIONS



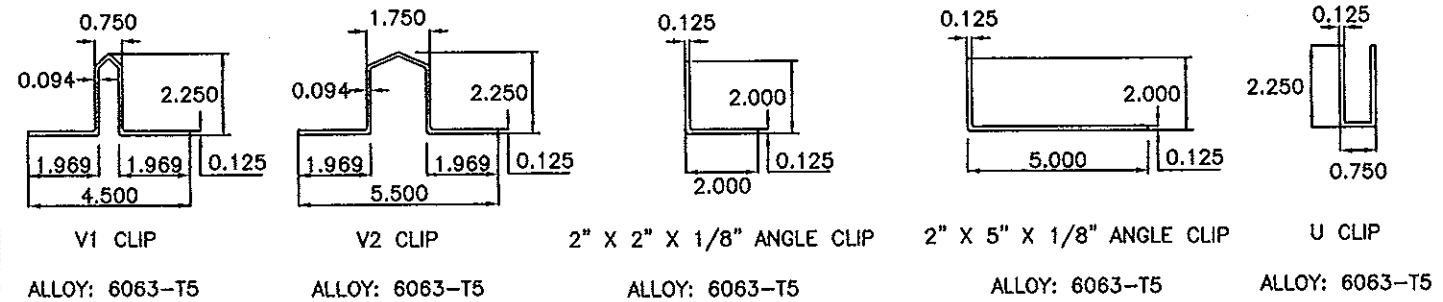
ROUND MULLION SLEEVES			
MULLION TYPE	DIMENSIONS		
	A	B	C
3 1/2" $\phi$	5.500"	3.250"	0.125"
4" $\phi$	6.000"	3.687"	0.125"

NOTES: - FOR ROUND MULLION AND ANCHOR  
DESIGN LOADS SEE SHEET 6 OF 21.  
- FOR CONFIGURATIONS OF ROUND ANCHORS  
SEE SHEETS 19, 20 AND 21 OF 21.

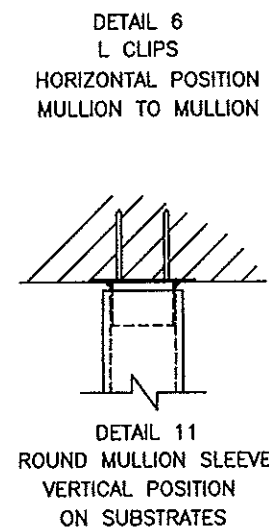
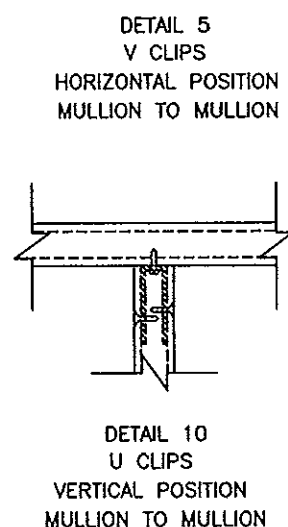
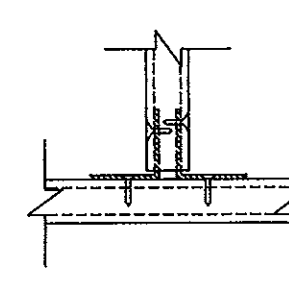
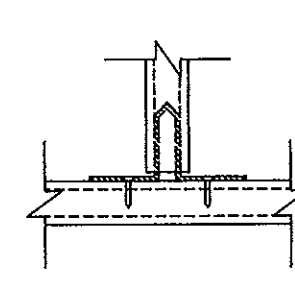
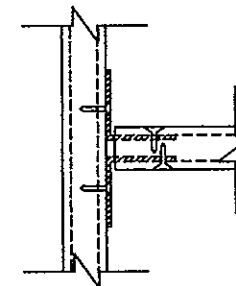
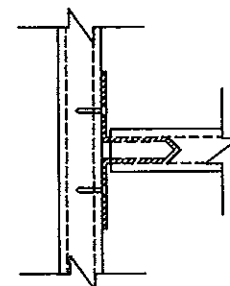
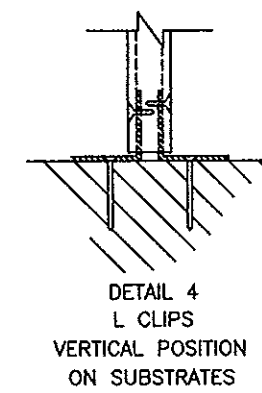
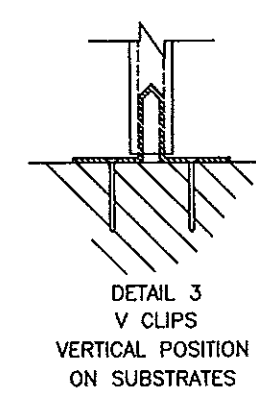
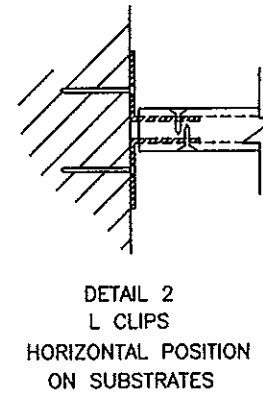
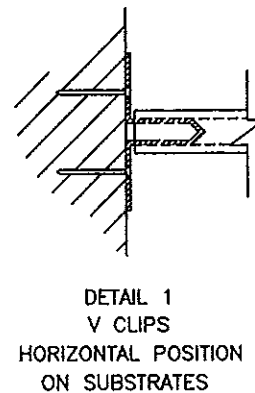
## RECTANGULAR MULLIONS CROSS SECTIONS



## ANCHOR CLIPS CROSS SECTIONS



## ANCHOR CLIPS LOCATION DETAILS



## MULLION SHAPES, ANCHOR CLIPS AND ANCHOR CLIPS LOCATION DETAILS

Approved as complying with the  
Florida Building Code  
Date: 2-25-13  
NOAH  
Miami Dade Product Control  
By: [Signature]

FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

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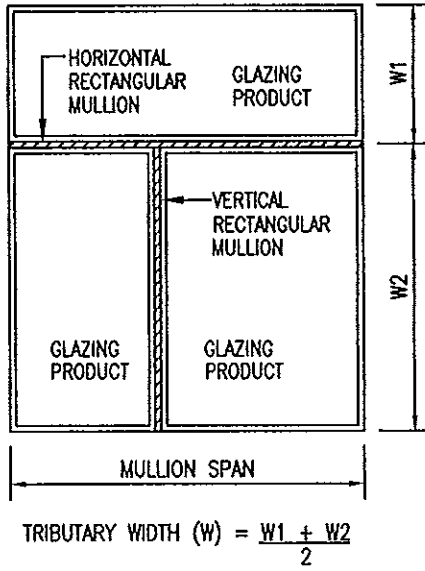
ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 02-11-13  
Scale: 1/4" = 1"  
Revision: \_\_\_\_\_  
Revision: \_\_\_\_\_

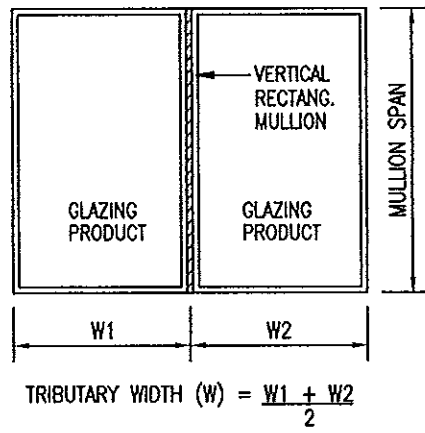
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M2011  
SHEET  
2 OF 21

MULLION DESIGN LOADS (MULLION CAPACITY)  
FOR RECTANGULAR MULLIONS  
TABLE # 1

MULLION DESIGN LOAD - PSF						MULLION DESIGN LOAD - PSF						MULLION DESIGN LOAD - PSF			
DIMENSIONS		MULLION	MULLION	MULLION	MULLION	DIMENSIONS		MULLION	MULLION	MULLION	MULLION	DIMENSIONS		MULLION	MULLION
WIDTH (W)	SPAN	1" X 2" X 1/8"	1" X 3" X 1/8"	1" X 4" X 1/8"	1" X 4" X 1/4"	WIDTH (W)	SPAN	1" X 4" X 1/4"	2" X 4" X 1/8"	2" X 6" X 1/8"	2" X 6" X 1/4"	WIDTH (W)	SPAN	2" X 6" X 1/8"	2" X 6" X 1/4"
27"	39"	128.5	140.0	140.0	140.0	27"	84"	140.0	115.4	140.0	140.0	27"	120"	122.6	140.0
37"		93.75	140.0	140.0	140.0	37"		112.8	84.20	140.0	140.0	37"		89.45	140.0
48"		72.25	140.0	140.0	140.0	48"		87.00	64.90	140.0	140.0	48"		68.90	126.6
60"		57.80	119.9	140.0	140.0	60"		69.55	51.90	112.5	140.0	60"		55.15	101.3
66"		52.55	109.0	140.0	140.0	66"		63.25	47.20	102.3	140.0	66"		50.15	92.10
74"		46.85	97.25	140.0	140.0	74"		58.40	42.10	91.25	140.0	74"		44.70	82.15
80"		43.35	90.00	140.0	140.0	80"		52.15	38.90	84.40	140.0	80"		41.35	76.00
27"	51"	57.45	140.0	140.0	140.0	27"	90"	125.7	77.30	140.0	140.0	27"	126"	111.2	140.0
37"		41.90	113.7	140.0	140.0	37"		91.70	56.40	140.0	140.0	37"		81.15	140.0
48"		32.30	87.65	140.0	140.0	48"		70.70	43.45	122.6	140.0	48"		62.55	114.9
60"		-	70.10	112.8	140.0	60"		56.55	34.75	98.00	140.0	60"		50.00	91.90
66"		-	63.75	102.5	140.0	66"		51.40	31.60	89.15	140.0	66"		45.45	83.50
74"		-	56.85	91.45	140.0	74"		45.85	28.20	79.50	140.0	74"		40.55	74.50
80"		-	52.60	84.60	140.0	80"		42.40	-	73.55	135.1	80"		37.50	68.90
27"	58"	-	111.9	140.0	140.0	27"	96"	103.6	64.45	140.0	140.0	27"	132"	101.3	140.0
37"		-	81.65	140.0	140.0	37"		75.55	47.00	139.7	140.0	37"		73.90	135.8
48"		-	62.95	109.0	140.0	48"		58.25	36.25	107.7	140.0	48"		57.00	104.7
60"		-	50.35	87.20	140.0	60"		46.60	29.00	86.20	140.0	60"		45.60	83.75
66"		-	45.75	79.25	140.0	66"		42.35	-	78.35	140.0	66"		41.50	76.15
74"		-	40.80	70.70	138.3	74"		37.75	-	69.90	128.4	74"		36.90	67.90
80"		-	37.75	65.40	128.0	80"		35.00	-	64.65	118.7	80"		34.20	62.80
27"	63"	-	87.30	140.0	140.0	27"	102"	86.35	54.30	140.0	140.0	27"	138"	92.70	140.0
37"		-	63.70	119.8	140.0	37"		63.00	39.60	123.8	140.0	37"		67.65	124.2
48"		-	49.10	92.40	140.0	48"		48.55	30.50	95.45	140.0	48"		52.15	95.80
60"		-	39.30	73.90	140.0	60"		38.85	-	76.35	140.0	60"		41.70	76.60
66"		-	35.70	67.20	131.5	66"		35.30	-	69.40	127.5	66"		37.90	69.65
74"		-	31.85	59.90	117.3	74"		31.50	-	61.90	113.7	74"		33.80	62.10
80"		-	29.45	55.40	108.4	80"		29.10	-	57.25	105.2	80"		31.25	57.45
27"	75"	-	51.75	111.0	140.0	27"	108"	72.70	46.10	140.0	140.0	27"	144"	85.10	140.0
37"		-	37.75	81.00	140.0	37"		53.00	36.65	110.4	140.0	37"		62.10	114.1
48"		-	29.10	62.40	122.1	48"		40.90	-	85.10	140.0	48"		47.85	87.90
60"		-	-	49.90	97.70	60"		32.70	-	68.10	125.1	60"		38.30	70.35
66"		-	-	45.40	88.85	66"		29.75	-	61.90	113.7	66"		34.80	63.50
74"		-	-	40.50	79.25	74"		-	-	55.20	101.4	74"		31.00	57.00
80"		-	-	37.45	73.30	80"		-	-	51.00	93.80	80"		28.70	52.70



HORIZONTAL MULLION



VERTICAL MULLION

- NOTES:
- 1.- INTERPOLATE FOR INTERMEDIATE VALUES OF SPAN AND/OR TRIBUTARY WIDTH TO DETERMINE THE DESIGN LOAD (MULLION CAPACITY).
  - 2.- MULLIONS ON THIS CHART MAY BE ORIENTED VERTICALLY AND/OR HORIZONTALLY.
  - 3.- SEE MULLION CROSS SECTIONS ON SHEET 2 OF 21.

Approved as complying with the  
Florida Building Code  
Date March 26, 2013  
NOAH 11-016-022  
Miami Dade Product Control  
By [Signature]

[Signature] 2-25-13  
FRANCISCO HERNANDEZ  
FLORIDA PE # 51393



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Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 2-11-13  
Scale: NTS  
Revision: \_\_\_\_\_  
Revision: \_\_\_\_\_

DRAWING NO.  
M2011

SHEET  
3 OF 21

ANCHOR DESIGN LOADS (ANCHOR CAPACITY)  
FOR RECTANGULAR MULLIONS  
TABLE # 2

ANCHOR DESIGN LOAD - PSF													
DIMENSIONS		ANCHOR TYPE A			ANCHOR TYPE B			ANCHOR TYPE C			ANCHOR TYPE D		
WIDTH (W)	SPAN	CONFIGURATIONS			CONFIGURATIONS			CONFIGURATIONS			CONFIGURATIONS		
		A1	A2	A3	B1	B2	B3	C1	C2	C3	D2	D3	D4
27"	39"	129.9	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0
37"		94.80	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0
48"		73.10	140.0	140.0	118.1	140.0	140.0	113.2	140.0	140.0	113.2	140.0	140.0
60"		58.45	116.9	140.0	94.50	140.0	140.0	90.55	140.0	140.0	90.55	135.8	140.0
66"		53.15	106.3	140.0	85.90	140.0	140.0	82.35	140.0	140.0	82.35	123.5	140.0
74"		47.40	94.80	140.0	76.60	140.0	140.0	73.45	140.0	140.0	73.45	110.1	140.0
80"		43.85	87.70	131.5	70.85	140.0	140.0	67.90	135.8	140.0	67.95	101.9	135.8
27"	51"	99.35	140.0	140.0	140.0	140.0	140.0	153.9	140.0	140.0	140.0	140.0	140.0
37"		72.50	140.0	140.0	117.2	140.0	140.0	112.3	140.0	140.0	112.3	140.0	140.0
48"		55.90	111.8	140.0	90.35	140.0	140.0	86.55	140.0	140.0	86.55	129.8	140.0
60"		44.70	89.45	134.1	72.25	140.0	140.0	69.20	138.5	140.0	69.25	103.9	138.5
66"		40.65	81.30	121.9	65.70	131.4	140.0	62.95	125.9	140.0	62.95	94.45	125.9
74"		36.25	72.50	108.7	58.60	117.2	140.0	56.15	112.3	140.0	56.15	84.25	112.3
80"		33.50	67.05	100.6	54.20	108.4	140.0	51.95	103.9	140.0	51.95	77.90	103.9
27"	58"	87.35	140.0	140.0	140.0	140.0	140.0	135.3	140.0	140.0	135.3	140.0	140.0
37"		63.75	127.5	140.0	103.0	140.0	140.0	98.75	140.0	140.0	98.75	140.0	140.0
48"		49.15	98.30	140.0	79.45	140.0	140.0	76.10	140.0	140.0	76.10	114.2	140.0
60"		39.30	78.65	117.9	63.55	127.1	140.0	60.90	121.8	140.0	60.90	91.35	121.8
66"		35.75	71.50	107.2	57.75	115.5	140.0	55.35	110.7	140.0	55.35	83.00	110.7
74"		31.85	63.75	95.65	51.50	103.0	139.1	49.35	98.75	140.0	49.35	74.05	98.75
80"		29.45	58.95	88.45	47.65	95.30	128.7	45.65	91.37	137.0	45.65	68.5	91.35
27"	63"	80.45	140.0	140.0	130.0	140.0	140.0	124.6	140.0	140.0	124.6	140.0	140.0
37"		58.70	117.4	140.0	94.85	140.0	140.0	90.90	140.0	140.0	90.90	140.0	140.0
48"		45.25	90.50	135.7	73.10	140.0	140.0	70.10	140.0	140.0	70.10	140.0	140.0
60"		36.20	72.40	108.6	58.50	117.0	140.0	56.05	112.1	140.0	56.05	112.1	140.0
66"		32.90	65.80	98.70	53.10	106.3	140.0	50.95	101.9	140.0	50.95	101.9	140.0
74"		29.35	58.70	88.05	47.40	94.85	128.1	45.45	90.90	136.4	45.45	90.90	136.4
80"		27.15	54.30	81.45	43.85	87.75	118.4	42.05	84.10	126.1	42.05	84.10	126.1
27"	75"	67.55	135.1	140.0	109.2	140.0	140.0	104.6	140.0	140.0	104.6	140.0	140.0
37"		49.30	98.60	140.0	79.70	140.0	140.0	76.35	140.0	140.0	76.35	114.5	140.0
48"		38.00	76.00	114.0	61.40	122.8	140.0	58.85	117.7	140.0	58.85	88.30	117.7
60"		30.40	60.80	91.20	49.10	98.30	132.7	47.10	94.20	140.0	47.10	70.65	94.21
66"		27.60	55.25	82.95	44.65	89.35	120.6	42.80	85.60	128.4	42.80	64.20	85.60
74"		24.65	49.30	73.95	39.85	79.70	107.6	38.15	76.35	114.5	38.15	57.25	76.35
80"		22.80	45.60	68.40	36.85	73.70	99.50	35.30	70.65	105.9	35.30	52.50	70.65

ANCHOR DETAILS  
CROSS REFERENCE TABLE  
(RECTANGULAR MULLIONS)

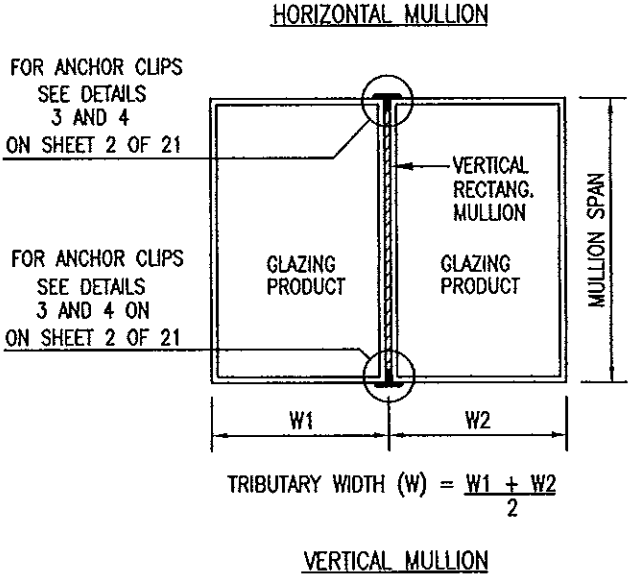
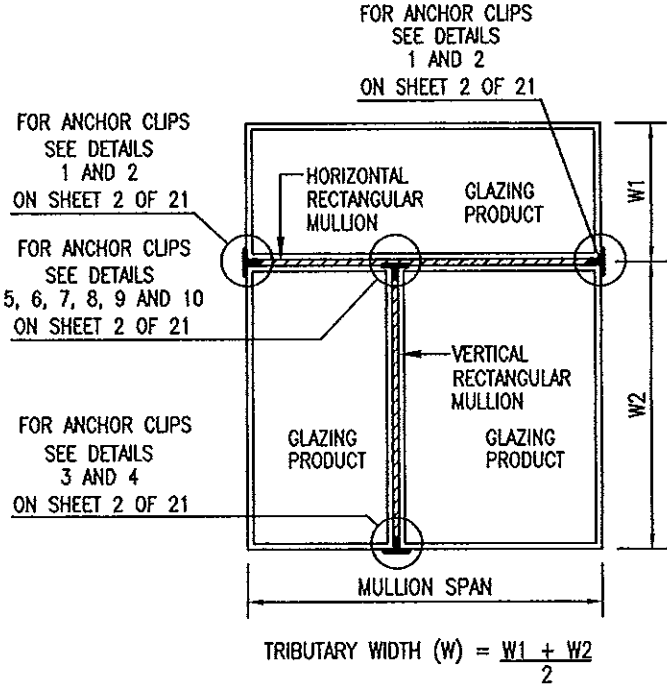
CONFIGURATIONS	LOCATED ON
A1	SHEETS 7 AND 8 OF 21
A2	SHEET 9 OF 21
A3	SHEETS 10 AND 11 OF 21
B1	SHEET 12 OF 21
B2	SHEET 13 OF 21
B3	SHEET 13 AND 14 OF 21
C1	SHEET 15 OF 21
C2	SHEET 16 OF 21
C3	SHEET 17 OF 21
D2	SHEET 18 OF 21
D3	SHEET 18 OF 21
D4	SHEET 18 OF 21

DESCRIPTION OF  
ANCHORS PER TYPE

ANCHOR TYPE	DESCRIPTION OF ATTACHMENT
A	TROUGH 1" BY WOOD BUCK INTO CONCRETE, MASONRY OR WOOD SUBSTRATE.
B	INTO CONCRETE SUBSTRATE
C	INTO METAL SUBSTRATE
D	INTO METAL SUBSTRATE (MULLION TO MULLION)

NOTES:

- 1.- INTERPOLATE FOR INTERMEDIATE VALUES OF SPAN AND/OR TRIBUTARY WIDTH TO DETERMINE THE DESIGN LOAD (ANCHOR CAPACITY).
- 2.- MULLIONS ON THIS CHART MAY BE ORIENTED VERTICALLY AND/OR HORIZONTALLY.
- 3.- SEE MULLION CROSS SECTIONS ON SHEET 2 OF 21.
- 4.- SEE ANCHOR CLIPS CROSS SECTIONS AND LOCATIONS DETAILS ON SHEET 2 OF 21.



Approved as complying with the  
Florida Building Code  
Date March 25, 2013  
NOAH 11-1116-12  
Miami Dade Product Control

By Francisco Hernandez

2-26-13  
FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 2-11-13  
Scale: NTS  
Revision:         
Revision:       

DRAWING NO.  
M2011

SHEET  
4 OF 21

ANCHOR DESIGN LOADS (ANCHOR CAPACITY)  
FOR RECTANGULAR MULLIONS  
TABLE # 3

ANCHOR DESIGN LOAD - PSF								ANCHOR DESIGN LOAD - PSF							
DIMENSIONS		ANCHOR TYPE A		ANCHOR TYPE B		ANCHOR TYPE C		DIMENSIONS		ANCHOR TYPE A		ANCHOR TYPE B		ANCHOR TYPE C	
WIDTH (W)	SPAN	CONFIGURATIONS		CONFIGURATIONS		CONFIGURATIONS		WIDTH (W)	SPAN	CONFIGURATIONS		CONFIGURATIONS		CONFIGURATIONS	
		A2	A3	B2	B3	C2	C3			A2	A3	B2	B3	C2	C3
27"	84"	120.5	140.0	140.0	140.0	140.0	140.0	27"	120"	84.45	126.7	136.5	140.0	130.8	140.0
37"		88.00	132.1	140.0	140.0	136.4	140.0	37"		61.65	92.45	99.60	134.5	95.45	140.0
48"		67.80	101.8	109.7	140.0	105.1	140.0	48"		47.50	71.20	76.80	103.6	73.60	110.4
60"		54.30	81.45	87.75	118.4	84.10	126.1	60"		38.00	57.00	61.40	82.90	58.85	88.30
66"		49.35	74.05	79.75	107.7	76.45	114.7	66"		34.50	51.80	55.85	75.40	53.50	80.25
74"		44.00	66.05	71.15	96.05	68.20	102.3	74"		30.80	46.20	49.80	67.25	47.70	71.60
74"		40.70	61.10	65.80	88.85	63.05	94.60	74"		28.50	42.75	46.00	62.20	44.15	66.20
27"	90"	112.6	140.0	140.0	140.0	140.0	140.0	27"	126"	80.45	120.6	130.0	140.0	124.6	140.0
37"		82.15	123.3	132.8	140.0	127.3	140.0	37"		58.70	88.00	94.85	128.1	90.90	136.4
48"		63.35	95.00	102.4	138.2	98.10	140.0	48"		45.25	67.85	73.10	98.70	70.10	105.1
60"		50.65	76.00	81.90	110.5	78.50	117.7	60"		36.20	54.30	58.50	79.00	56.00	84.11
66"		46.00	69.10	74.45	100.5	71.35	107.0	66"		32.90	49.35	53.15	71.80	50.95	76.45
74"		41.00	61.65	66.40	89.65	65.35	95.45	74"		29.35	44.00	47.40	64.00	45.45	68.20
74"		38.00	57.00	61.44	82.90	58.85	88.30	74"		27.15	40.70	43.85	59.20	42.00	63.00
27"	96"	105.6	140.0	140.0	140.0	140.0	140.0	27"	132"	76.80	115.2	124.1	140.0	118.9	140.0
37"		77.05	115.5	124.5	140.0	119.3	140.0	37"		56.00	84.00	90.55	122.2	86.80	130.2
48"		59.40	89.10	96.00	129.6	92.00	138.0	48"		43.20	64.80	69.85	94.25	66.90	100.3
60"		47.50	71.25	76.80	103.6	73.60	110.4	60"		34.55	51.80	55.85	75.40	53.50	80.25
66"		43.20	64.80	69.80	94.25	66.90	100.3	66"		31.40	47.10	50.75	68.55	48.65	73.00
74"		38.50	57.75	62.25	84.05	59.65	89.50	74"		28.00	42.00	45.25	61.10	43.40	65.10
74"		35.60	53.45	57.60	77.75	55.20	82.80	74"		25.90	38.85	41.85	56.55	40.15	60.20
27"	102"	99.35	140.0	140.0	140.0	140.0	140.0	27"	138"	73.45	110.1	118.7	140.0	113.7	140.0
37"		72.50	108.7	117.2	140.0	112.3	140.0	37"		53.60	80.40	86.60	116.9	83.00	124.5
48"		55.90	83.85	90.35	121.9	86.55	129.8	48"		41.30	61.95	66.75	90.10	64.00	96.00
60"		44.70	67.05	72.25	97.55	69.25	103.9	60"		33.05	49.55	53.40	72.10	51.20	76.80
66"		40.65	60.95	65.70	88.70	62.95	94.45	66"		30.00	45.00	48.55	66.55	46.55	69.80
74"		36.25	54.35	58.60	79.10	56.15	84.25	74"		26.80	40.20	43.30	58.45	41.50	62.25
74"		33.50	50.30	54.20	73.15	51.95	77.90	74"		24.75	37.15	40.00	54.00	38.40	57.60
27"	108"	93.85	140.0	140.0	140.0	143.3	140.0	27"	144"	70.40	105.6	113.7	153.6	109.0	140.0
37"		68.45	102.7	110.7	140.0	106.0	140.0	37"		51.35	77.05	83.00	112.0	79.55	119.3
48"		52.80	79.20	85.30	115.2	81.75	122.6	48"		39.60	59.40	64.00	86.40	61.30	92.00
60"		42.20	63.35	68.25	92.15	65.42	98.10	60"		31.65	47.50	51.20	69.10	49.00	73.60
66"		38.40	57.60	62.05	83.75	59.45	89.20	66"		28.80	43.20	46.55	62.80	44.60	66.90
74"		34.20	51.35	55.35	74.70	53.05	79.55	74"		25.65	38.50	41.50	56.00	39.75	59.65
74"		31.65	47.50	51.20	69.10	49.05	73.60	74"		23.75	35.60	38.40	51.80	36.8	55.20

ANCHOR DETAILS  
CROSS REFERENCE TABLE  
(RECTANGULAR MULLIONS)

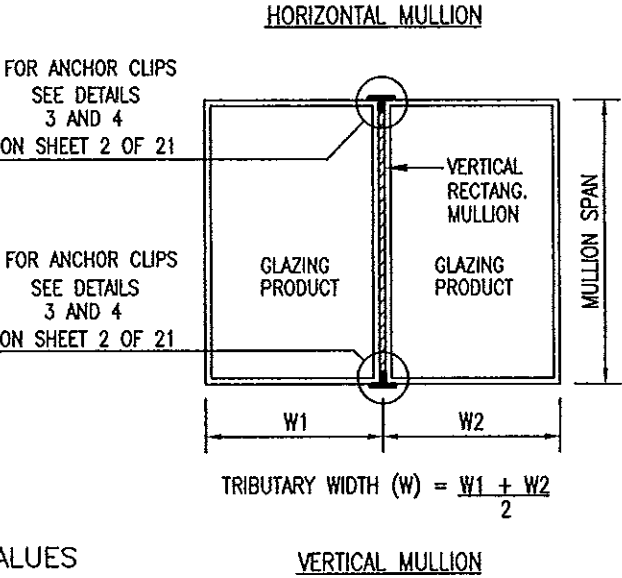
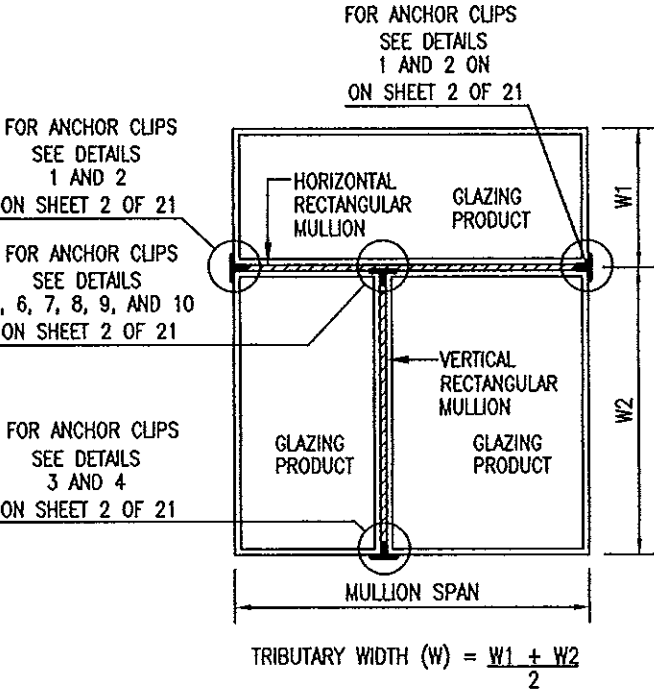
CONFIGURATIONS	LOCATED ON
A1	SHEETS 7 AND 8 OF 21
A2	SHEET 9 OF 21
A3	SHEETS 10 AND 11 OF 21
B1	SHEET 12 OF 21
B2	SHEET 13 OF 21
B3	SHEET 13 AND 14 OF 21
C1	SHEET 15 OF 21
C2	SHEET 16 OF 21
C3	SHEET 17 OF 21
D2	SHEET 18 OF 21
D3	SHEET 18 OF 21
D4	SHEET 18 OF 21

DESCRIPTION OF  
ANCHORS PER TYPE

ANCHOR TYPE	DESCRIPTION OF ATTACHMENT
A	TROUGH 1" BY WOOD BUCK INTO CONCRETE, MASONRY OR WOOD SUBSTRATE.
B	INTO CONCRETE SUBSTRATE
C	INTO METAL SUBSTRATE
D	INTO METAL SUBSTRATE (MULLION TO MULLION)

NOTES:

- 1.- INTERPOLATE FOR INTERMEDIATE VALUES OF SPAN AND/OR TRIBUTARY WIDTH TO DETERMINE THE DESIGN LOAD (ANCHOR CAPACITY).
- 2.- MULLIONS ON THIS CHART MAY BE ORIENTED VERTICALLY AND/OR HORIZONTALLY.
- 3.- SEE MULLION CROSS SECTIONS ON SHEET 2 OF 21.
- 4.- SEE ANCHOR CLIPS CROSS SECTIONS AND LOCATIONS DETAILS ON SHEET 2 OF 21.



Approved as complying with the  
Florida Building Code  
Date: March 28, 2013  
NOAH [Signature]  
Miami Dade Product Control  
By: [Signature]

FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 2-11-13  
Scale: NTS  
Revision:         
Revision:         
DRAWING NO.  
M2011  
SHEET  
5 OF 21



MULLION AND ANCHOR DESIGN LOADS (MULLION AND ANCHOR CAPACITIES)  
FOR ROUND MULLIONS  
TABLE # 4

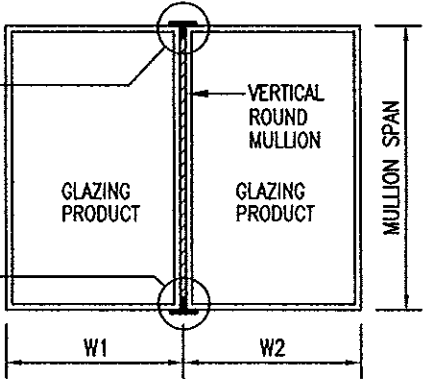
MULLION DESIGN LOAD - PSF				ANCHOR DESIGN LOAD - PSF					
DIMENSIONS		MULLION	MULLION	ANCHOR TYPE B			ANCHOR TYPE C		
WIDTH (W)	SPAN	3 1/2" Ø X 0.082"	4" Ø X 0.125"	CONFIGURATIONS			CONFIGURATIONS		
				BR2	BR3	BR4	CR2	CR3	CR4
27"	39"	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0
37"		116.9	140.0	140.0	140.0	140.0	140.0	140.0	140.0
48"		90.10	140.0	118.1	140.0	113.2	113.2	140.0	140.0
60"		72.10	140.0	94.50	127.6	90.55	90.55	135.8	140.0
66"		65.55	129.0	85.90	116.0	82.35	82.35	123.5	140.0
74"		58.45	115.0	76.60	103.4	73.45	73.45	110.1	140.0
80"		54.00	106.4	70.85	95.70	67.90	67.95	101.9	135.8
27"	51"	93.70	140.0	140.0	140.0	140.0	140.0	140.0	140.0
37"		68.35	134.5	117.2	140.0	112.3	112.3	140.0	140.0
48"		52.70	103.7	90.35	121.9	86.55	86.55	129.8	140.0
60"		42.15	82.90	72.25	97.55	69.25	69.25	103.9	138.5
66"		38.30	75.40	65.70	88.70	62.95	62.95	94.45	125.9
74"		-	67.25	58.60	79.10	56.15	56.15	84.25	112.3
80"		-	62.20	54.20	73.15	51.95	51.95	77.90	103.9
27"	58"	72.40	140.0	140.0	140.0	135.3	140.0	140.0	140.0
37"		52.85	104.0	103.0	139.1	98.75	140.0	140.0	140.0
48"		40.75	80.15	79.45	107.2	76.10	140.0	114.2	140.0
60"		32.60	64.15	63.55	85.80	60.90	121.8	91.35	121.8
66"		-	58.30	57.75	78.00	55.35	110.7	83.00	110.7
74"		-	52.00	51.50	69.55	49.35	98.75	74.05	98.75
80"		-	48.10	47.65	64.35	45.65	91.35	68.50	91.35
27"	63"	61.25	120.8	130.0	140.0	124.6	140.0	140.0	140.0
37"		44.70	88.15	94.85	128.1	90.90	140.0	136.4	140.0
48"		34.45	67.90	73.10	98.70	70.10	140.0	105.1	140.0
60"		-	54.35	58.50	78.95	56.05	112.1	84.10	112.1
66"		-	49.40	53.15	71.80	50.95	101.9	76.45	101.9
74"		-	44.00	47.40	64.00	45.45	90.90	68.20	90.90
80"		-	40.75	43.85	59.25	42.05	84.10	63.05	84.10
27"	75"	36.31	81.65	109.2	140.0	104.6	140.0	140.0	140.0
37"		-	59.55	79.70	107.6	76.35	140.0	114.5	140.0
48"		-	45.90	61.40	82.90	58.85	117.7	88.30	117.7
60"		-	36.70	49.15	66.35	47.10	94.20	70.65	94.21
66"		-	33.40	44.65	60.30	42.80	85.60	64.20	85.60
74"		-	-	39.85	53.80	38.15	78.35	57.25	76.35
80"		-	-	36.85	49.75	35.30	70.65	52.50	70.65

ANCHOR DETAILS  
CROSS REFERENCE TABLE  
(ROUND MULLIONS)

CONFIGURATIONS	TOP VIEW LOCATED ON	SECTION LOCATED ON
BR2	SHEET 19 OF 21	SHEET 21 OF 21
BR3	SHEET 19 OF 21	SHEET 21 OF 21
BR4	SHEET 20 OF 21	SHEET 21 OF 21
CR2	SHEET 19 OF 21	SHEET 21 OF 21
CR3	SHEET 19 OF 21	SHEET 21 OF 21
CR4	SHEET 20 OF 21	SHEET 21 OF 21

FOR ANCHOR CLIPS  
SEE DETAIL 11  
ON SHEET 2 OF 21

FOR ANCHOR CLIPS  
SEE DETAIL 11  
ON SHEET 2 OF 21



TRIBUTARY WIDTH (W) =  $\frac{W1 + W2}{2}$

VERTICAL MULLION

DESCRIPTION OF  
ANCHORS PER TYPE  
(ROUND MULLIONS)

ANCHOR TYPE	DESCRIPTION OF ATTACHMENT
B	INTO CONCRETE SUBSTRATE
C	INTO METAL SUBSTRATE

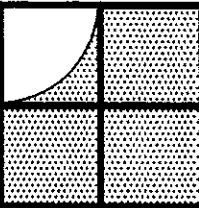
NOTES:

- 1.- INTERPOLATE FOR INTERMEDIATE VALUES OF SPAN AND/OR TRIBUTARY WIDTH TO DETERMINE DESIGN LOAD (MULLION AND ANCHOR CAPACITIES).
- 2.- SEE DETAILS OF ROUND MULLIONS ON SHEETS 19, 20 AND 21 OF 21.
- 3.- ROUND MULLIONS SHALL BE ORIENTED VERTICALLY ONLY.
- 4.- SEE MULLION CROSS SECTIONS ON SHEET 2 OF 21.
- 5.- SEE ANCHOR SLEEVE DETAILS, SECTIONS AND LOCATIONS ON SHEET 2 OF 21.

Approved as complying with the  
Florida Building Code  
Date March 28, 2013  
NOA# 11-716-02  
Miami Dade Product Control

By: Francisco Hernandez

2-25-13  
FRANCISCO HERNANDEZ  
FLORIDA PE # 51393



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Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

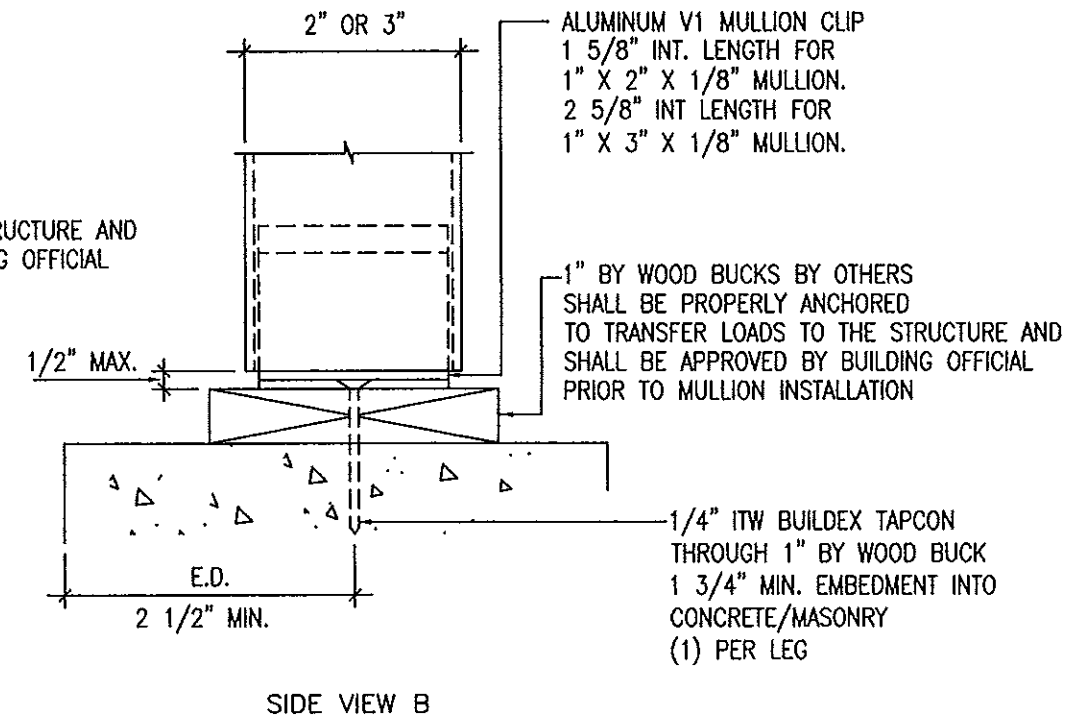
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Date: 2-11-13  
Scale: NTS  
Revision: \_\_\_\_\_  
Revision: \_\_\_\_\_

DRAWING NO.  
M2011

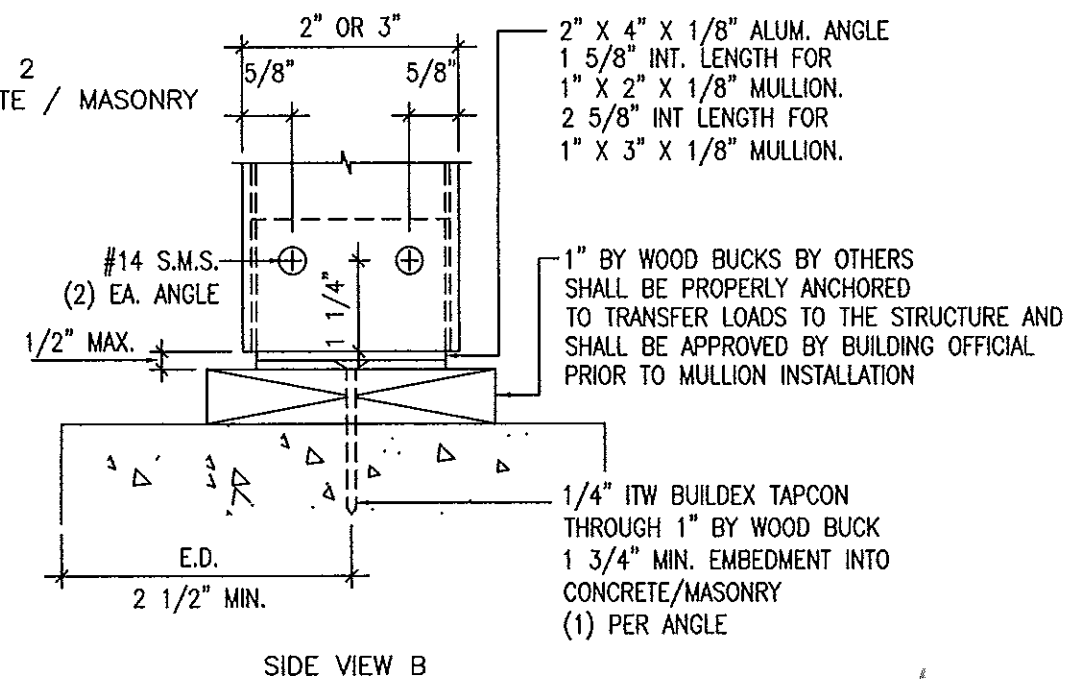
SHEET  
6 OF 21



NUMBER OF ANCHORS PER END = 2  
SUBSTRATE: 1" BY WOOD BUCK OVER CONCRETE / MASONRY



NUMBER OF ANCHORS PER END = 2  
SUBSTRATE: 1" BY WOOD BUCK OVER CONCRETE / MASONRY



Approved as complying with the  
Florida Building Code  
Date March 22, 2013  
NOA# 11-1216-02  
Miami Dade Product Control  
By [Signature]

Drawn by: NM  
Date: 02-11-13  
Scale: 3/8" = 1"  
Revision: \_\_\_\_\_  
Revision: \_\_\_\_\_

DRAWING NO.  
M2011

SHEET  
7 OF 21

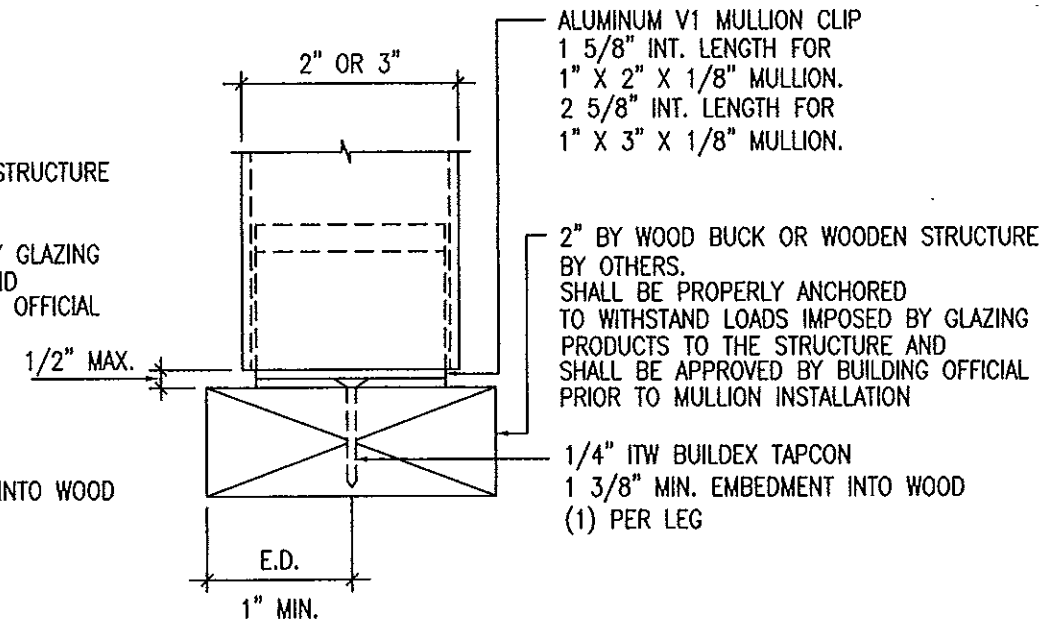
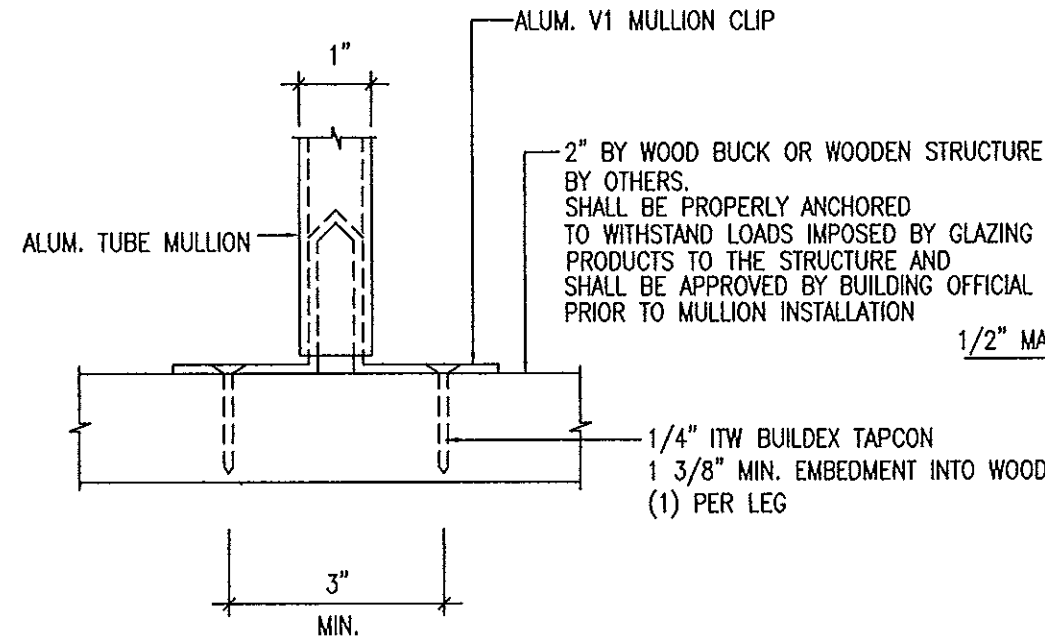
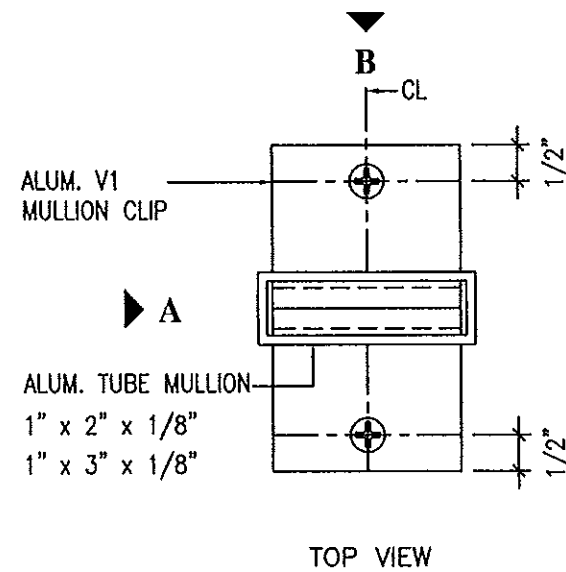
**Sunshine Windows  
Manufacturing, Inc.**  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax:(305)828-5118

**ALUMINUM TUBE MULLION L.M.I.**

# ANCHOR CONFIGURATION TYPE A1

FOR 1" X 2" OR 1" X 3" MULLIONS  
WITH V1 MULLION CLIP

NUMBER OF ANCHORS PER END = 2  
SUBSTRATE: 2" BY WOOD BUCK OR WOODEN STRUCTURE

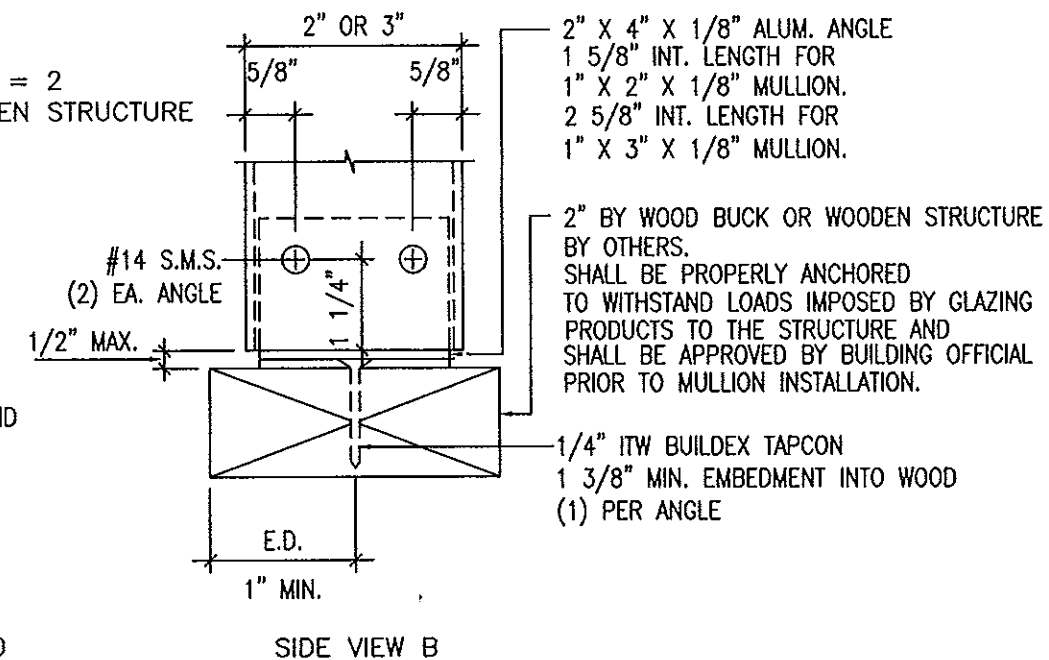
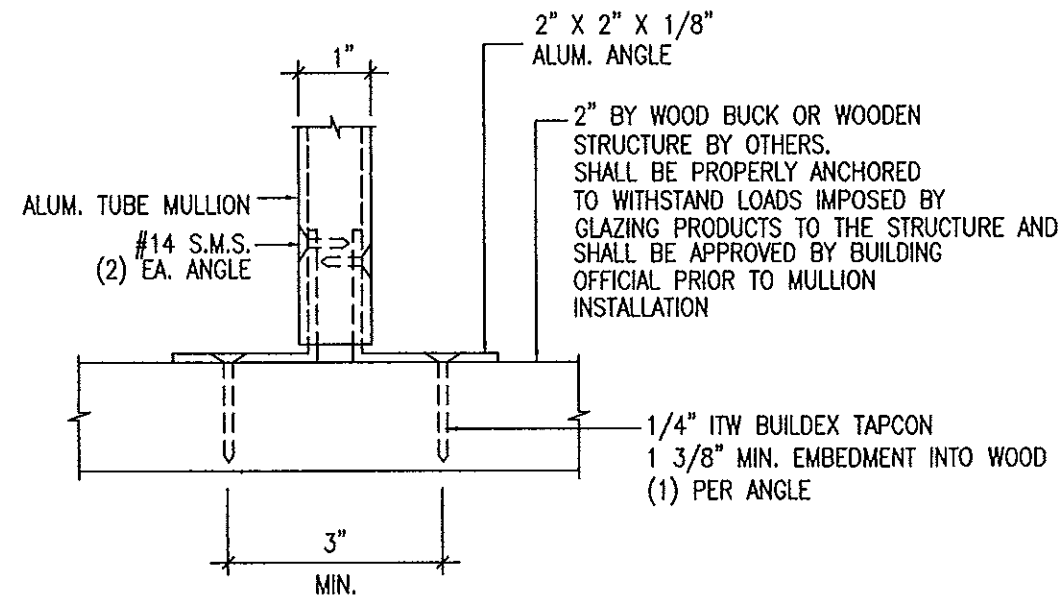
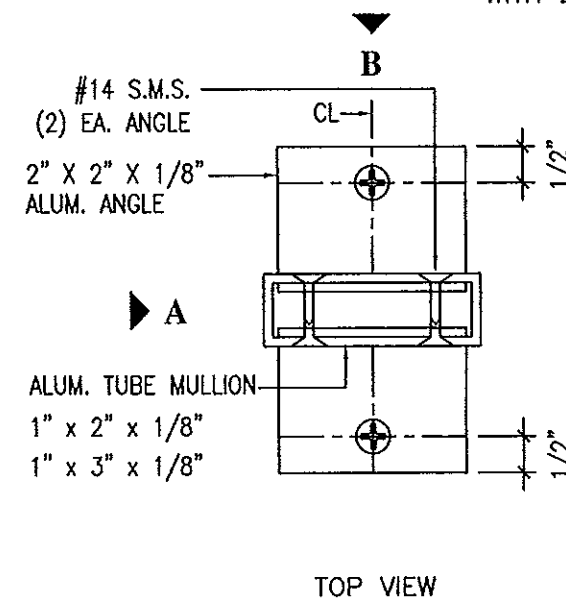


NOTE: ANCHOR CONFIGURATION TYPE A1 AS SHOWN IS VALID FOR  
MULLIONS 1" X 2" X 1/8" AND 1" X 3" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLE # 2 ON SHEET 4 OF 21.

# ANCHOR CONFIGURATION TYPE A1

FOR 1" X 2" OR 1" X 3" MULLIONS  
WITH 2" X 2" 1/8" ANGLES

NUMBER OF ANCHORS PER END = 2  
SUBSTRATE: 2" BY WOOD BUCK OR WOODEN STRUCTURE



NOTE: ANCHOR CONFIGURATION TYPE A1 AS SHOWN IS VALID FOR  
MULLIONS 1" X 2" X 1/8" AND 1" X 3" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLE # 2 ON SHEET 4 OF 21.

**Sunshine Windows  
Manufacturing, Inc.**  
1745 W. 33rd Place  
Hialeah, Florida 33012  
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Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 02-11-13  
Scale: 3/8" = 1"  
Revision:  
Revision:

DRAWING NO.  
M2011

SHEET  
8 OF 21

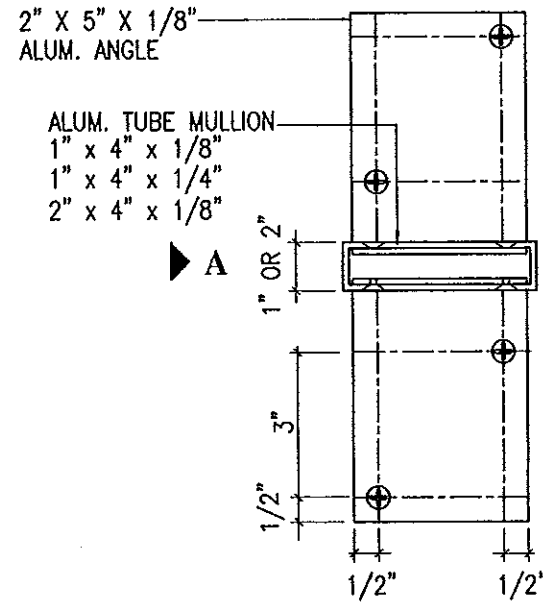
Approved as complying with the  
Florida Building Code  
Date: 2-25-13  
NOA# 12-16-13  
Miami Dade Product Control  
By: Francisco Hernandez

FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

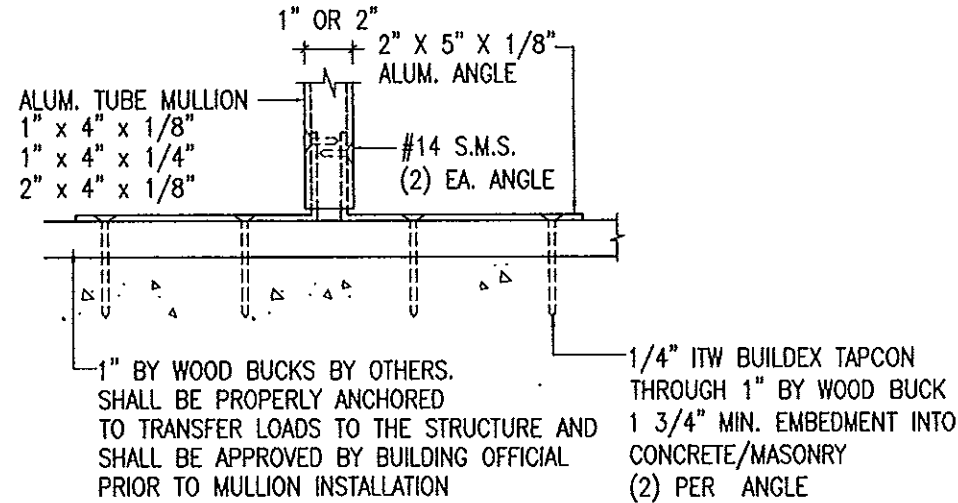
### ANCHOR CONFIGURATION TYPE A2

FOR 1" X 4" OR 2" X 4" MULLIONS  
WITH 2" X 5" X 1/8" ALUM. ANGLES

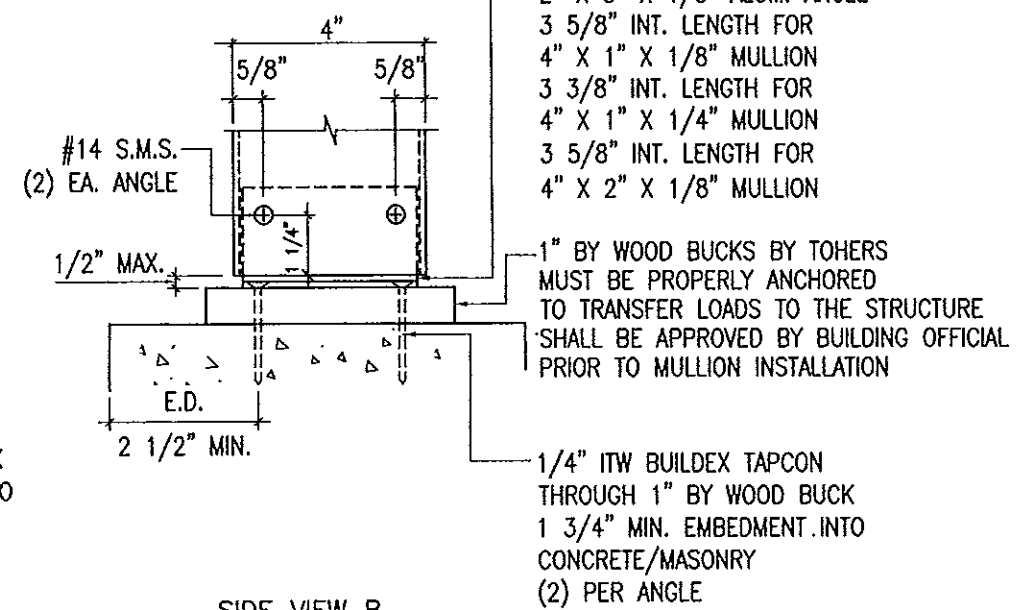
NUMBER OF ANCHORS PER END = 4  
SUBSTRATE: 1" BY WOOD BUCK OVER CONCRETE / MASONRY



TOP VIEW



SIDE VIEW A



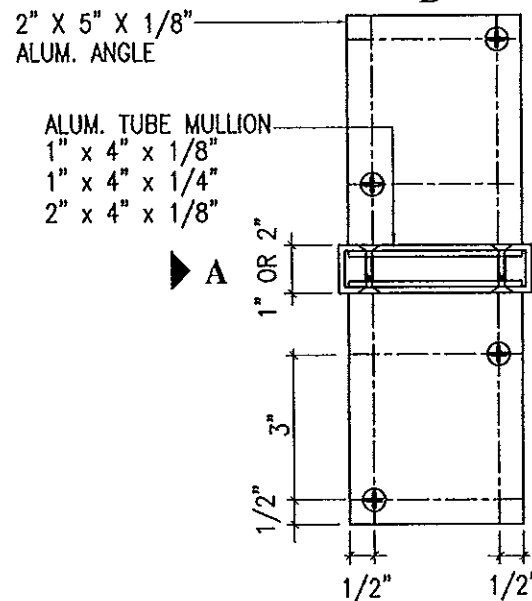
SIDE VIEW B

NOTE: ANCHOR CONFIGURATION TYPE A2 AS SHOWN IS VALID FOR  
MULLIONS 1" X 4" X 1/8", 1" X 4" X 1/4" AND 2" X 4" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.

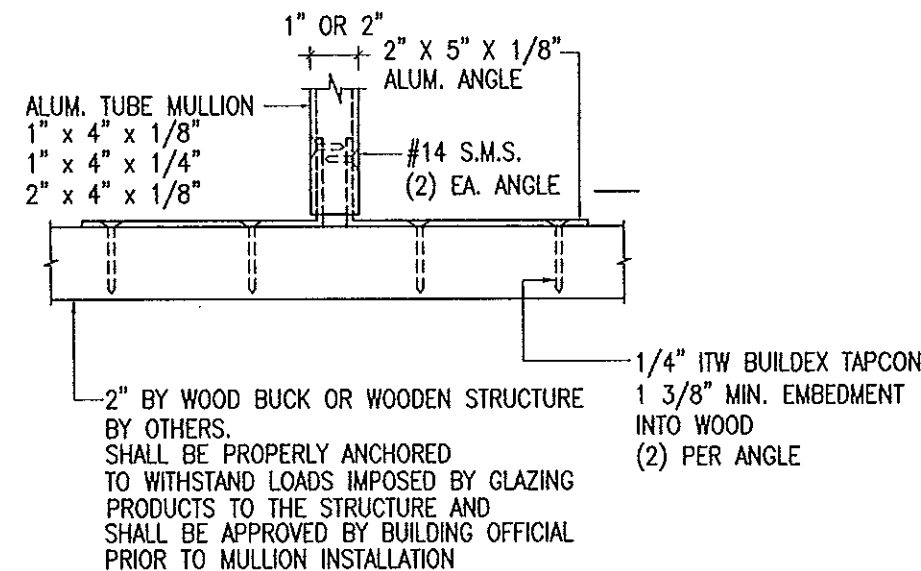
### ANCHOR CONFIGURATION TYPE A2

FOR 1" X 4" OR 2" X 4" MULLIONS  
WITH 2" X 5" X 1/8" ALUM. ANGLES

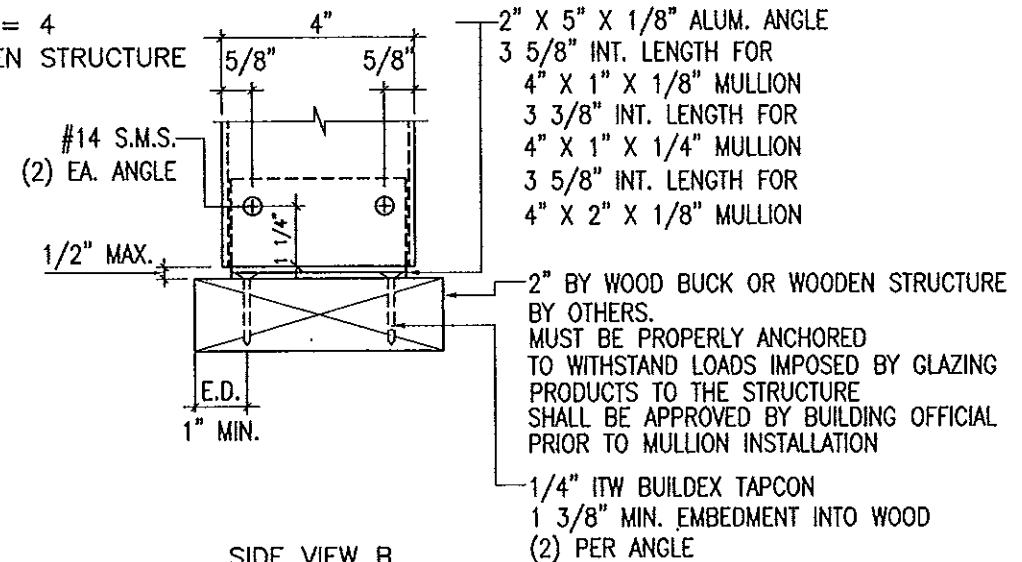
NUMBER OF ANCHORS PER END = 4  
SUBSTRATE: 2" BY WOOD BUCK OR WOODEN STRUCTURE



TOP VIEW



SIDE VIEW A

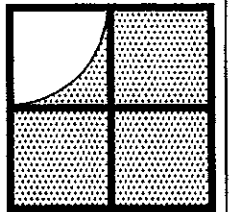


SIDE VIEW B

NOTE: ANCHOR CONFIGURATION TYPE A2 AS SHOWN IS VALID FOR  
MULLIONS 1" X 4" X 1/8", 1" X 4" X 1/4" AND 2" X 4" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.

Approved as complying with the  
Florida Building Code  
Date: 11-11-13  
NOAH  
Miami Dade Product Control  
By: Francisco Hernandez

FRANCISCO HERNANDEZ  
FLORIDA PE # 51393



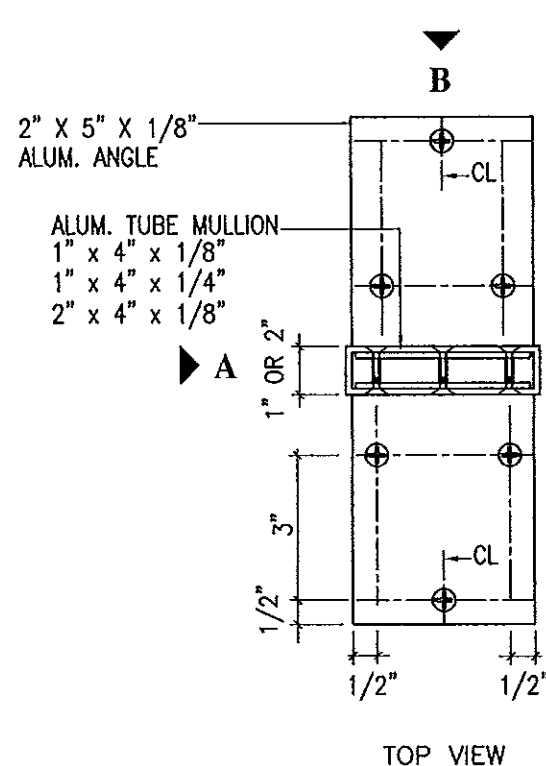
Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

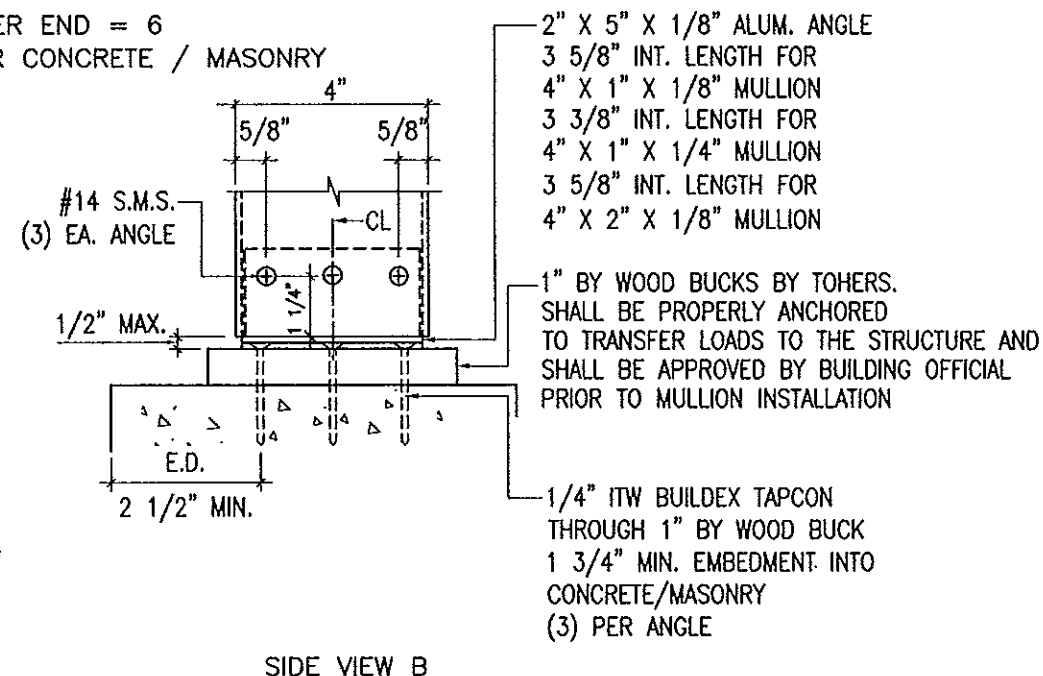
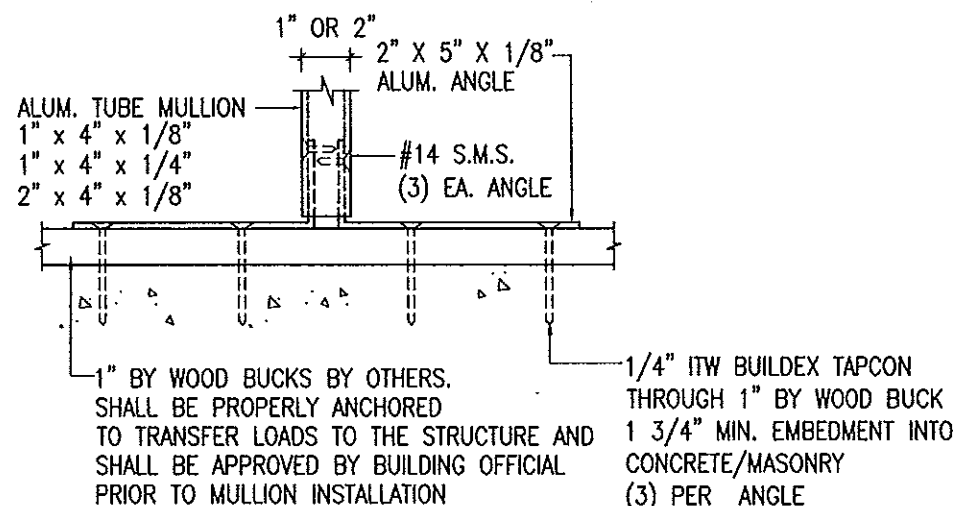
Drawn by: NM  
Date: 02-11-13  
Scale: 1/4" = 1"  
Revision:  
Revision:

DRAWING NO.  
M2011

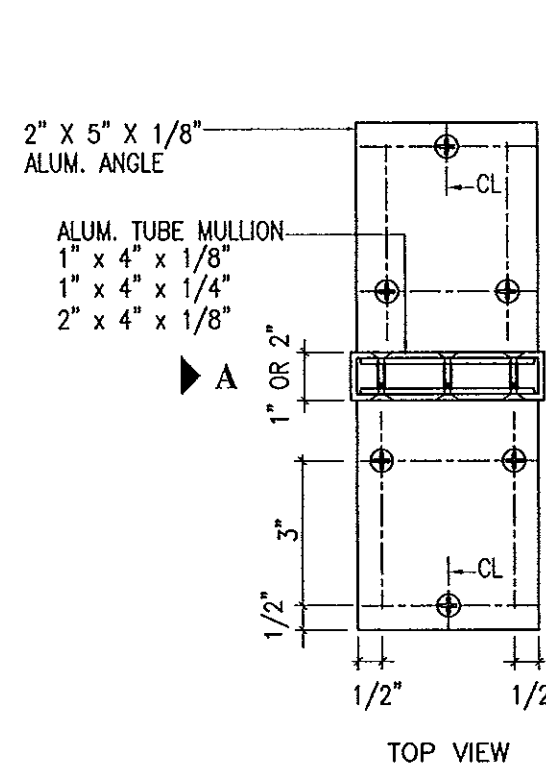
SHEET  
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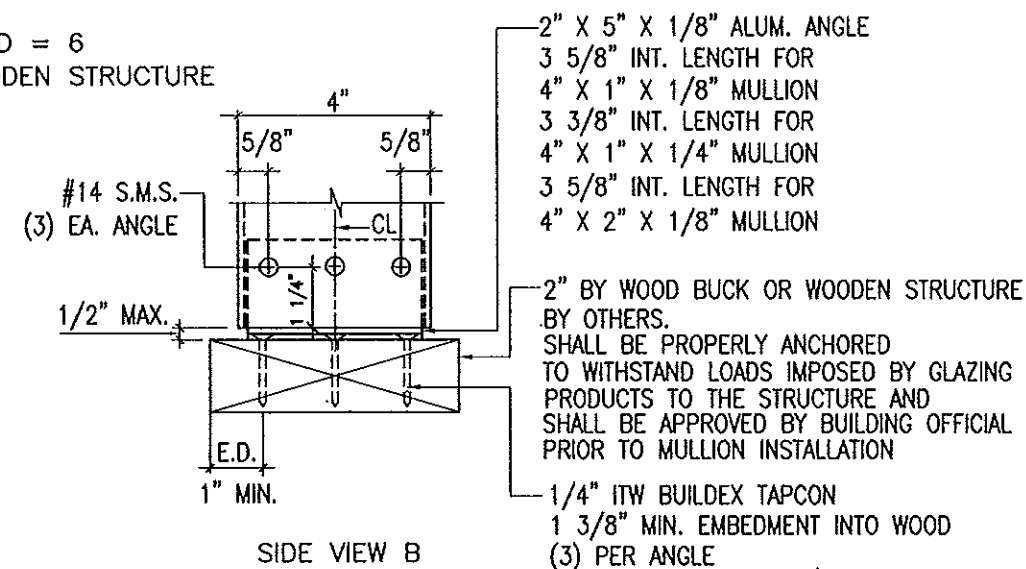
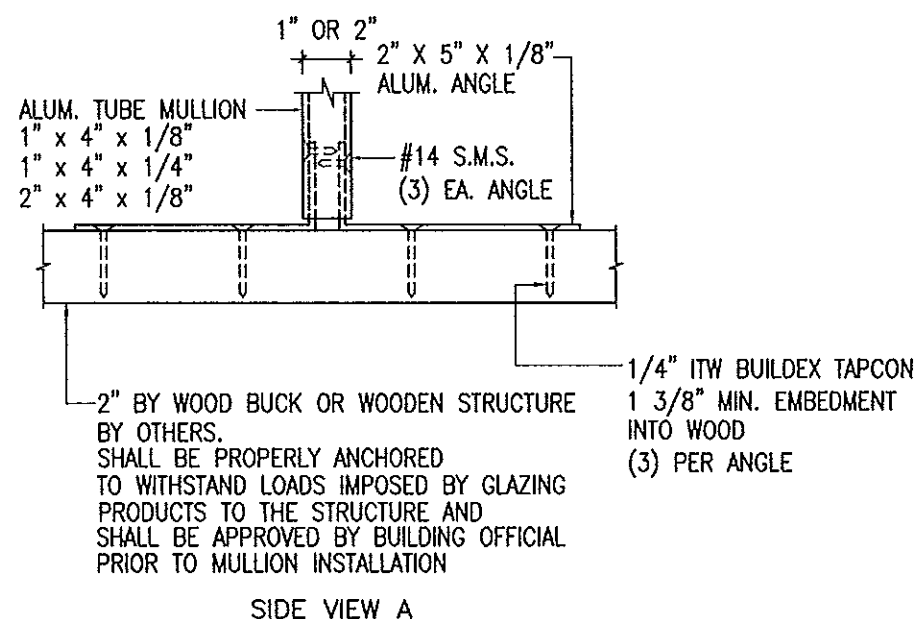
**ANCHOR CONFIGURATION TYPE A3**  
FOR 1" X 4" OR 2" X 4" MULLIONS  
WITH 2" X 5" X 1/8" ALUM. ANGLES  
NUMBER OF ANCHORS PER END = 6  
SUBSTRATE: 1" BY WOOD BUCK OVER CONCRETE / MASONRY



NOTE: ANCHOR CONFIGURATION TYPE A3 AS SHOWN IS VALID FOR  
MULLIONS 1" X 4" X 1/8", 1" X 4" X 1/4" AND 2" X 4" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.



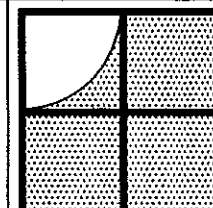
**ANCHOR CONFIGURATION TYPE A3**  
FOR 1" X 4" OR 2" X 4" MULLIONS  
WITH 2" X 5" X 1/8" ALUM. ANGLES  
NUMBER OF ANCHORS PER END = 6  
SUBSTRATE: 2" BY WOOD BUCK OR WOODEN STRUCTURE



NOTE: ANCHOR CONFIGURATION TYPE A3 AS SHOWN IS VALID FOR  
MULLIONS 1" X 4" X 1/8", 1" X 4" X 1/4" AND 2" X 4" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.

Approved as complying with the  
Florida Building Code  
Date: 11-11-13  
NOA# 11-11-13  
Miami Dade Product Control  
By: Francisco Hernandez

FRANCISCO HERNANDEZ  
FLORIDA PE # 51393



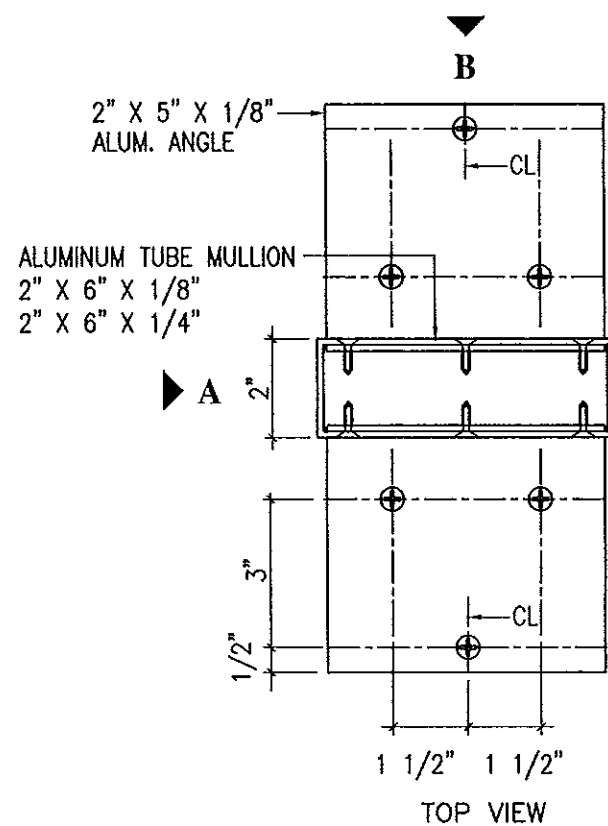
Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 02-11-13  
Scale: 1/4" = 1"  
Revision:  
Revision:

DRAWING NO.  
M2011

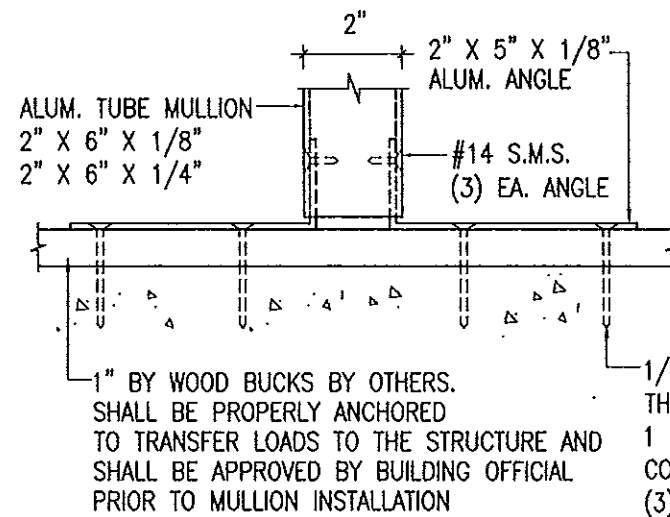
SHEET  
10 OF 21



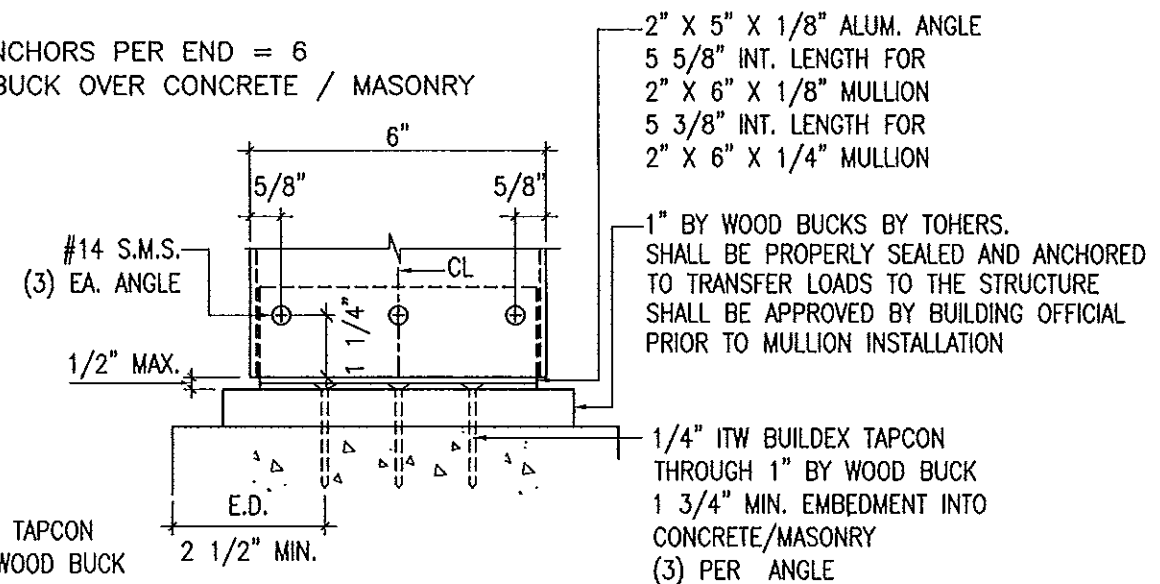
### ANCHOR CONFIGURATION TYPE A3

FOR 2" X 6" MULLIONS  
WITH 2" X 5" X 1/8" ALUM. ANGLES

NUMBER OF ANCHORS PER END = 6  
SUBSTRATE: 1" BY WOOD BUCK OVER CONCRETE / MASONRY

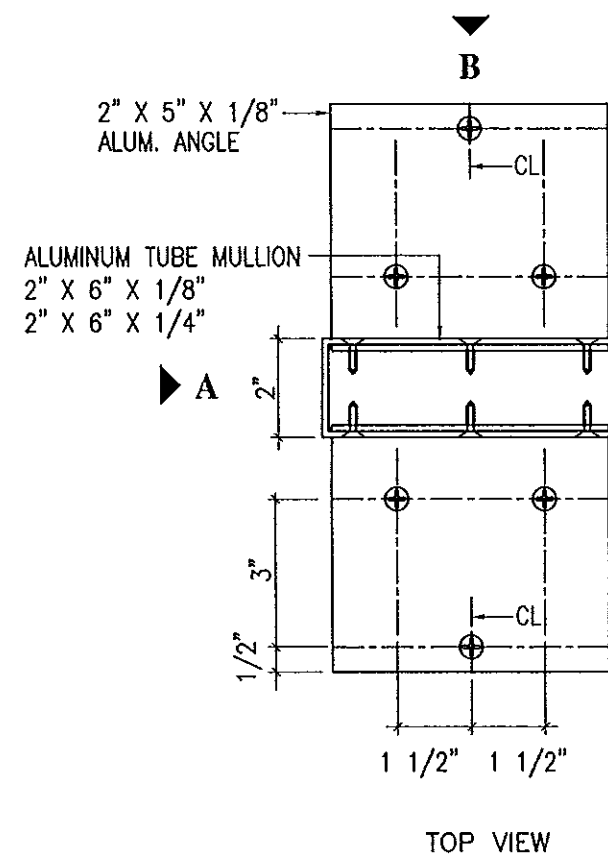


SIDE VIEW A



SIDE VIEW B

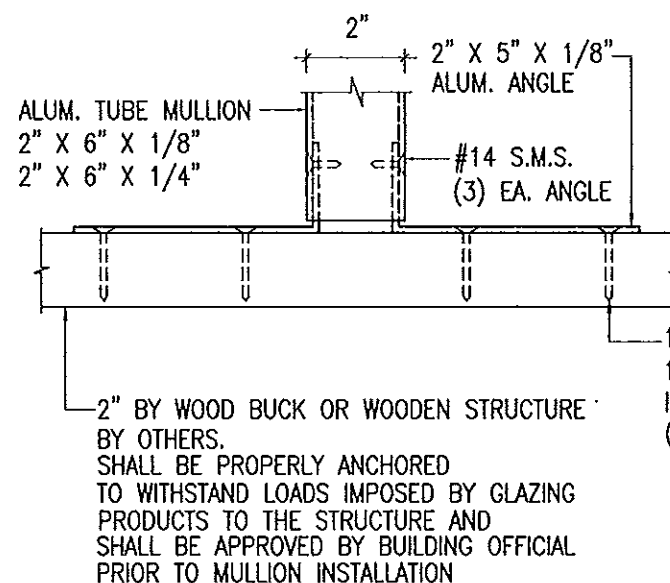
NOTE: ANCHOR CONFIGURATION TYPE A3 AS SHOWN IS VALID FOR  
MULLIONS 2" X 6" X 1/8" AND 2" X 6" X 1/4".  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.



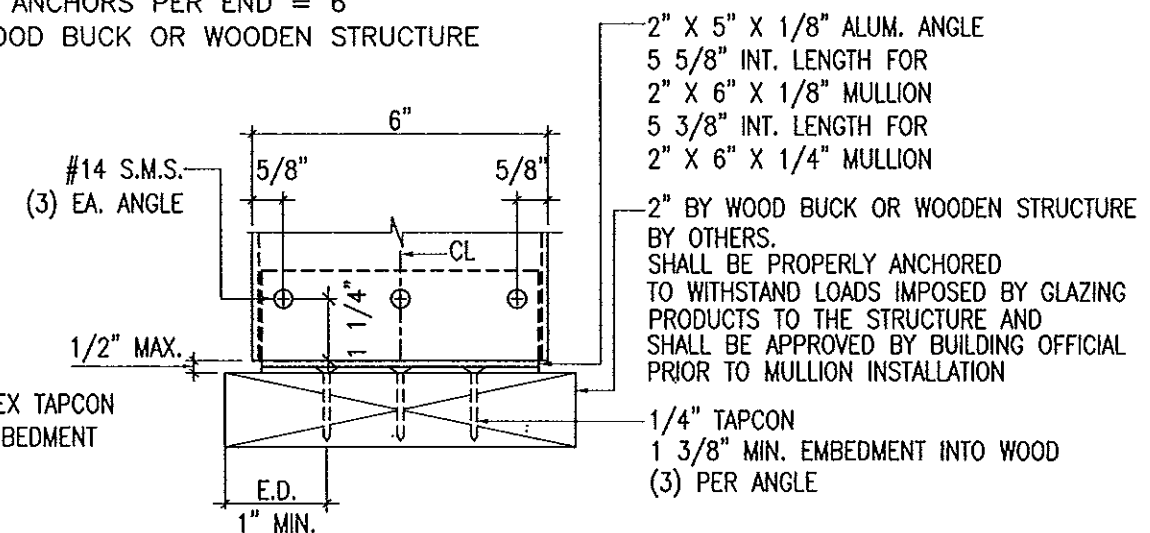
### ANCHOR CONFIGURATION TYPE A3

FOR 2" X 6" MULLIONS  
WITH 2" X 5" X 1/8" ALUM. ANGLES

NUMBER OF ANCHORS PER END = 6  
SUBSTRATE: 2" BY WOOD BUCK OR WOODEN STRUCTURE



SIDE VIEW A



SIDE VIEW B

NOTE: ANCHOR CONFIGURATION TYPE A3 AS SHOWN IS VALID FOR  
MULLIONS 2" X 6" X 1/8" AND 2" X 6" X 1/4".  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.

Approved as complying with the  
Florida Building Code  
Date: March 2, 2013  
NOA# 11-1016-00  
Miami Dade Product Control  
By: [Signature]

2-25-13  
FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

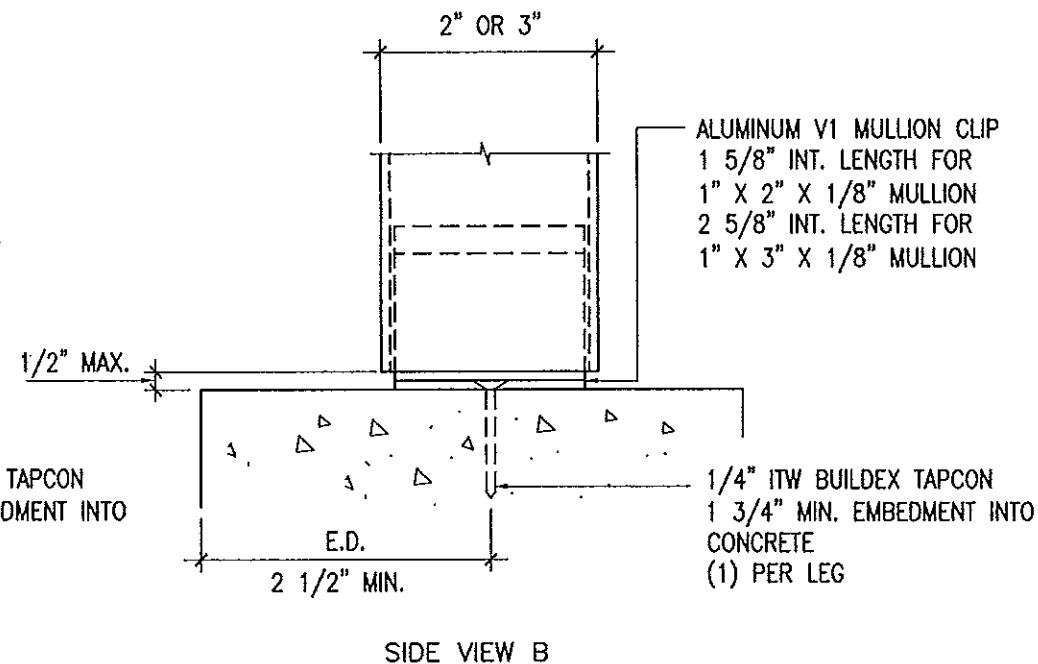
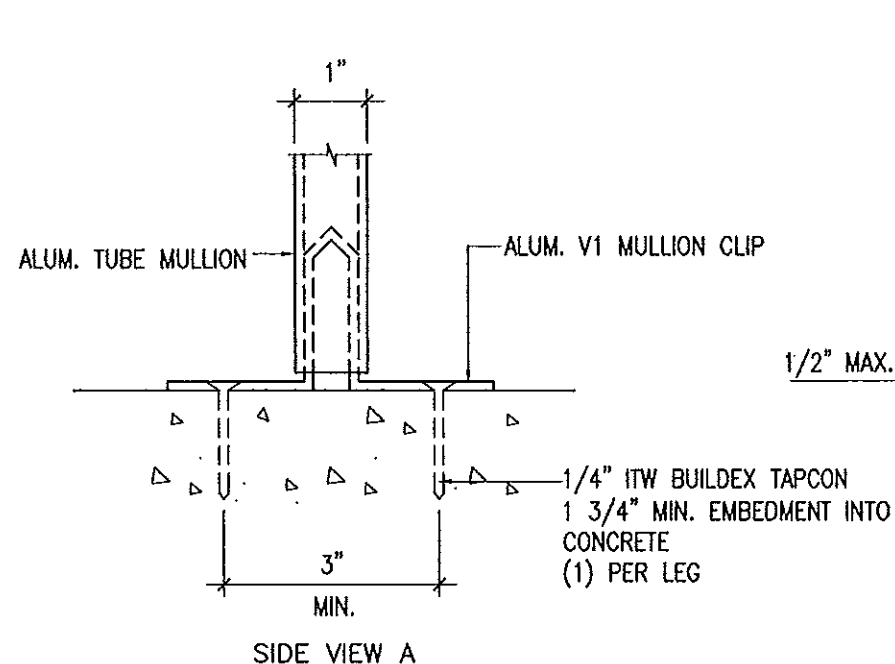
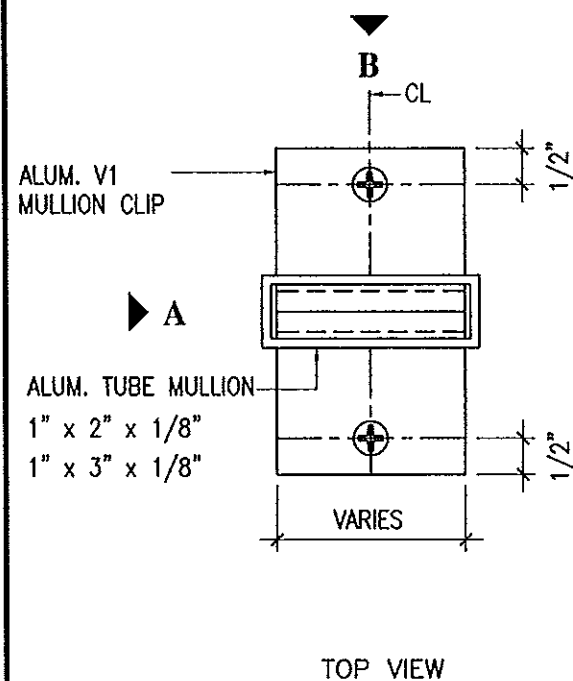
ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 02-11-13  
Scale: 1/4" = 1"  
Revision:  
Revision:

DRAWING NO.  
M2011

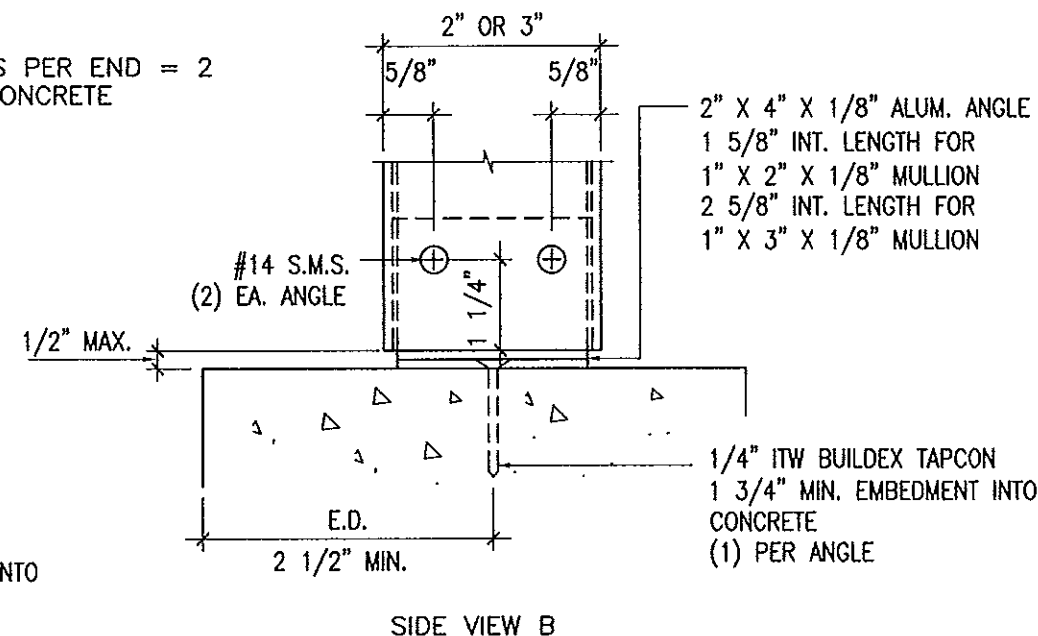
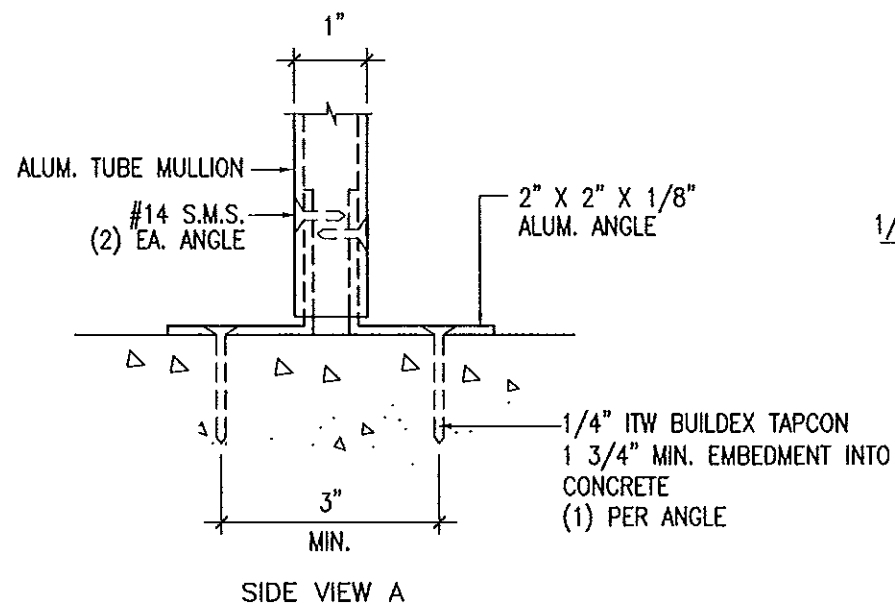
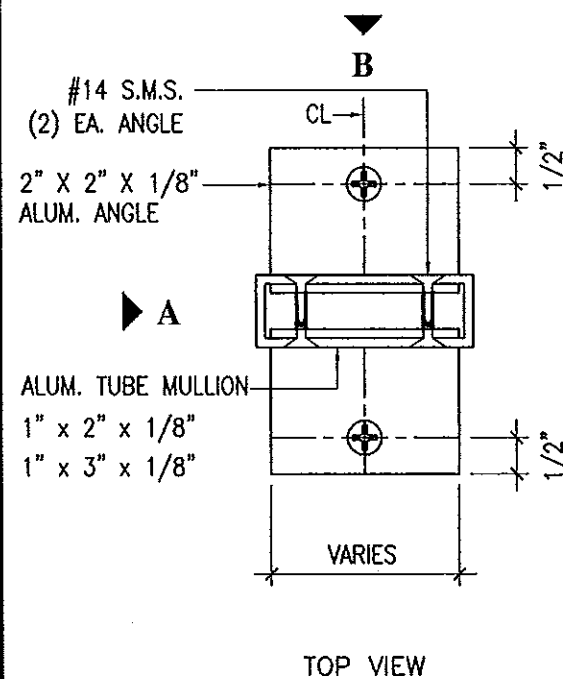
SHEET  
11 OF 21

**ANCHOR CONFIGURATION TYPE B1**  
 FOR 1" X 2" OR 1" X 3" MULLIONS WITH V1 MULLION CLIP  
 NUMBER OF ANCHORS PER END = 2  
 SUBSTRATE: CONCRETE



NOTE: ANCHOR CONFIGURATION TYPE B1 AS SHOWN ON THIS SHEET IS VALID FOR MULLIONS 1" X 2" X 1/8" AND 1" X 3" X 1/8".  
 FOR ANCHOR DESIGN LOADS SEE TABLE # 2 ON SHEET 4 OF 21.

**ANCHOR CONFIGURATION TYPE B1**  
 FOR 1" X 2" OR 1" X 3" MULLIONS WITH 2" X 2" X 1/8" ANGLE  
 NUMBER OF ANCHORS PER END = 2  
 SUBSTRATE: CONCRETE



NOTE: ANCHOR CONFIGURATION TYPE B1 AS SHOWN ON THIS SHEET IS VALID FOR MULLIONS 1" X 2" X 1/8" AND 1" X 3" X 1/8".  
 FOR ANCHOR DESIGN LOADS SEE TABLE # 2 ON SHEET 4 OF 21.

Approved as complying with the  
 Florida Building Code  
 Date: March 22, 2013  
 NOAH: 17-116-02  
 Miami Dade Product Control  
 By: [Signature]

2-25-13  
 FRANCISCO HERNANDEZ  
 FLORIDA PE # 51393

**Sunshine Windows Manufacturing, Inc.**  
 1745 W. 33rd Place  
 Hialeah, Florida 33012  
 Ph: (305)364-9952  
 Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

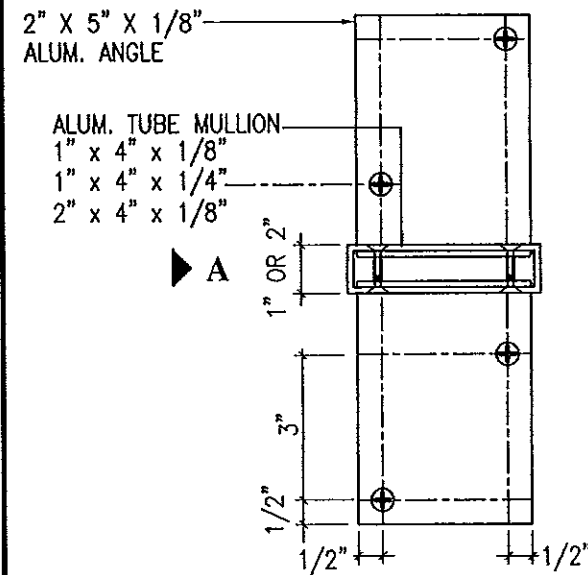
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 Date: 02-11-13  
 Scale: 3/8" = 1"  
 Revision: \_\_\_\_\_  
 Revision: \_\_\_\_\_

DRAWING NO.  
**M2011**  
 SHEET  
**12 OF 21**

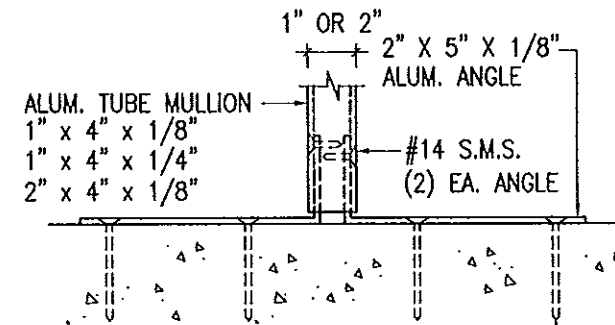
### ANCHOR CONFIGURATION TYPE B2

FOR 1" X 4" OR 2" X 4" MULLIONS  
WITH 2" X 5" X 1/8" ALUM. ANGLES

NUMBER OF ANCHORS PER END = 4  
SUBSTRATE: CONCRETE

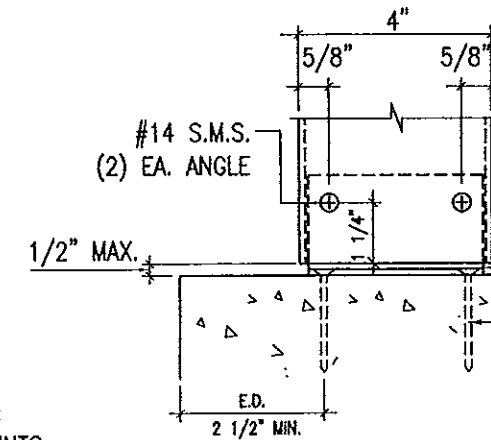


TOP VIEW



SIDE VIEW A

1/4" ITW BUILDDEX TAPCON  
1 3/4" MIN. EMBEDMENT INTO  
CONCRETE  
(2) PER ANGLE



SIDE VIEW B

2" X 5" X 1/8" ALUM. ANGLE  
3 5/8" INT. LENGTH FOR  
4" X 1" X 1/8" MULLION  
3 3/8" INT. LENGTH FOR  
4" X 1" X 1/4" MULLION  
3 5/8" INT. LENGTH FOR  
4" X 2" X 1/8" MULLION

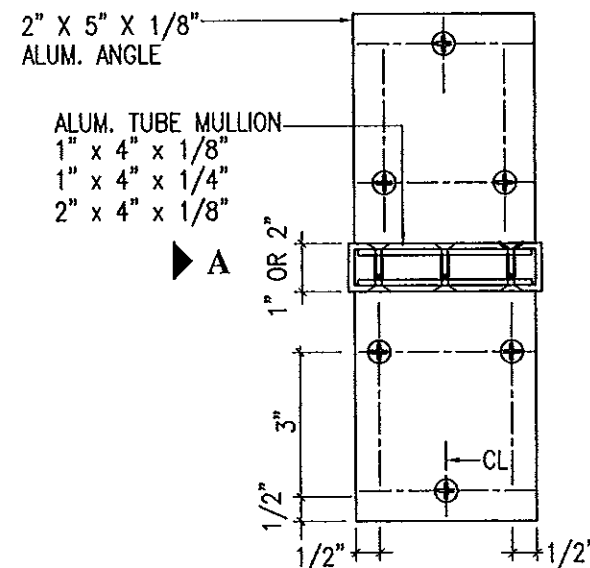
1/4" ITW BUILDDEX TAPCON  
1 3/4" MIN. EMBEDMENT INTO  
CONCRETE  
(2) PER ANGLE

NOTE: ANCHOR CONFIGURATION TYPE B2 AS SHOWN IS VALID FOR  
MULLIONS 1" X 4" X 1/8", 1" X 4" X 1/4" AND 2" X 4" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 5 AND 6 OF 22.

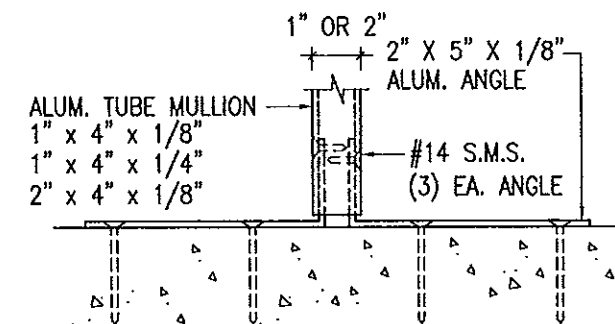
### ANCHOR CONFIGURATION TYPE B3

FOR 1" X 4" OR 2" X 4" MULLIONS  
WITH 2" X 5" X 1/8" ALUM. ANGLES

NUMBER OF ANCHORS PER END = 6  
SUBSTRATE: CONCRETE

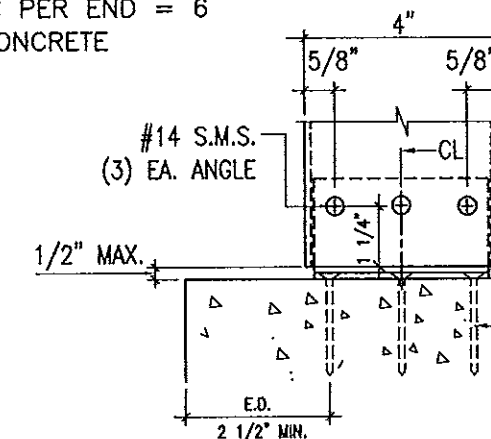


TOP VIEW



SIDE VIEW A

1/4" ITW BUILDDEX TAPCON  
1 3/4" MIN. EMBEDMENT INTO  
CONCRETE  
(3) PER ANGLE



SIDE VIEW B

2" X 5" X 1/8" ALUM. ANGLE  
4" X 1" X 1/8" MULLION  
3 5/8" INT. LENGTH FOR  
3 3/8" INT. LENGTH FOR  
4" X 1" X 1/4" MULLION  
3 5/8" INT. LENGTH FOR  
4" X 2" X 1/8" MULLION

1/4" ITW BUILDDEX TAPCON  
1 3/4" MIN. EMBEDMENT INTO  
CONCRETE  
(3) PER ANGLE

NOTE: ANCHOR CONFIGURATION TYPE B3 AS SHOWN IS VALID FOR  
MULLIONS 1" X 4" X 1/8", 1" X 4" X 1/4" AND 2" X 4" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.

Approved as complying with the  
Florida Building Code  
Date: 2-25-13  
NOA# 11-116-02  
Miami Dade Product Control  
By: Francisco Hernandez

2-25-13  
FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

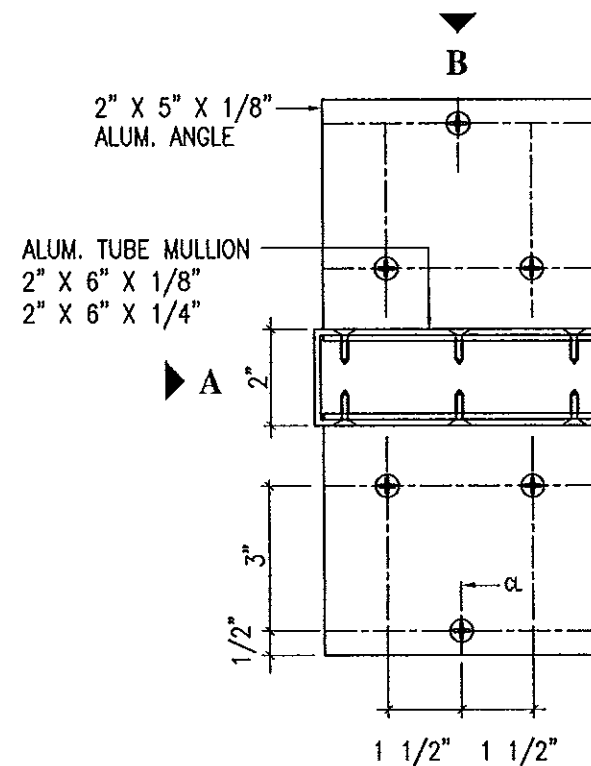
Drawn by: NM  
Date: 02-11-13  
Scale: 1/4" = 1"  
Revision:  
Revision:

DRAWING NO.  
M2011

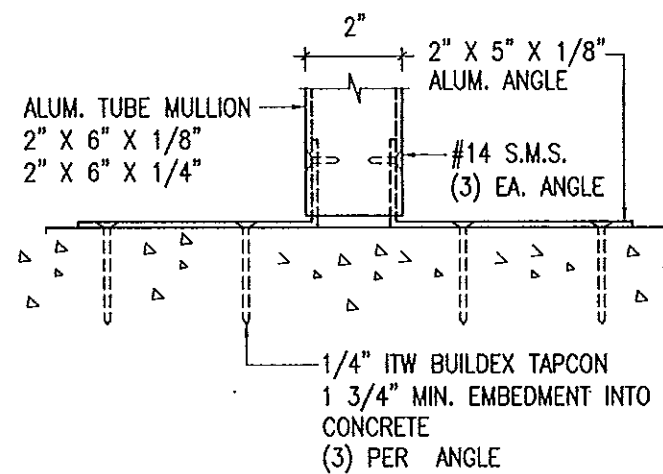
SHEET  
13 OF 21



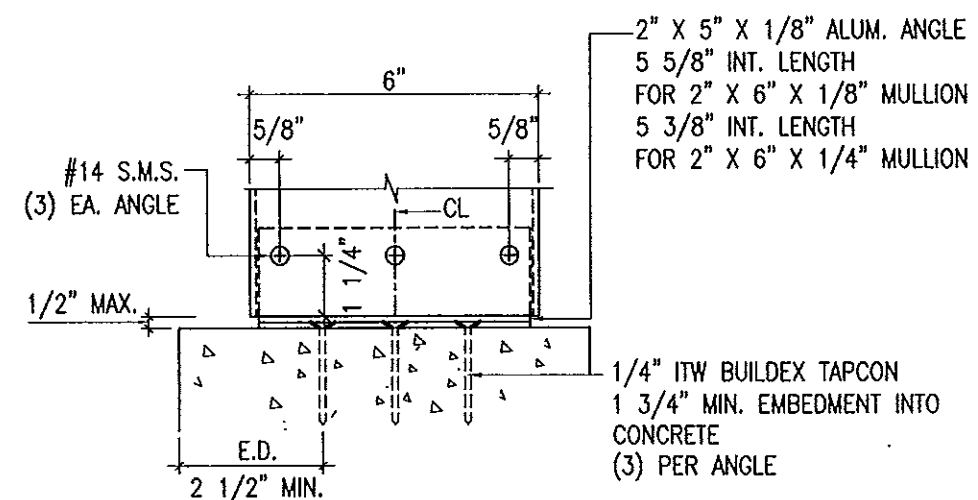
**ANCHOR CONFIGURATION TYPE B3**  
 FOR 2" X 6" MULLIONS  
 WITH 2" X 5" X 1/8" ALUM. ANGLES  
 NUMBER OF ANCHORS PER END = 6  
 SUBSTRATE: CONCRETE



TOP VIEW



SIDE VIEW A

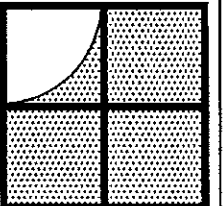


SIDE VIEW B

NOTE: ANCHOR CONFIGURATION TYPE B3 AS SHOWN IS VALID FOR  
 MULLIONS 2" X 6" X 1/8" AND 2" X 6" X 1/4".  
 FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.

Approved as complying with the  
 Florida Building Code  
 Date March 28, 2013  
 NOAH March 28, 2013  
 Miami Dade Product Control

2-25-13  
 FRANCISCO HERNANDEZ  
 FLORIDA PE # 51393



Sunshine Windows  
 Manufacturing, Inc.  
 1745 W. 33rd Place  
 Hialeah, Florida 33012  
 Ph: (305)364-9952  
 Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
 Date: 02-11-13  
 Scale: 1/4" = 1"  
 Revision:  
 Revision:

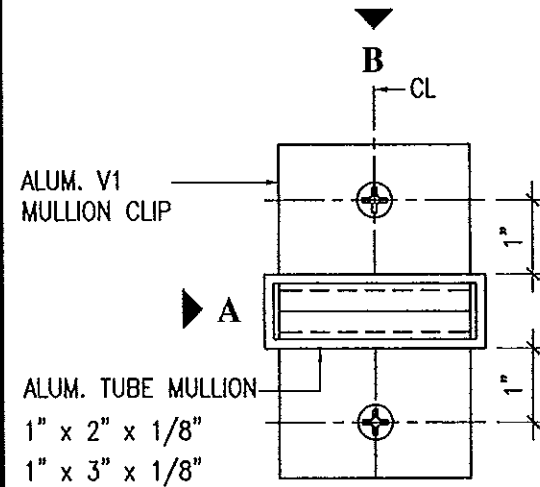
DRAWING NO.  
 M2011

SHEET  
 14 OF 21

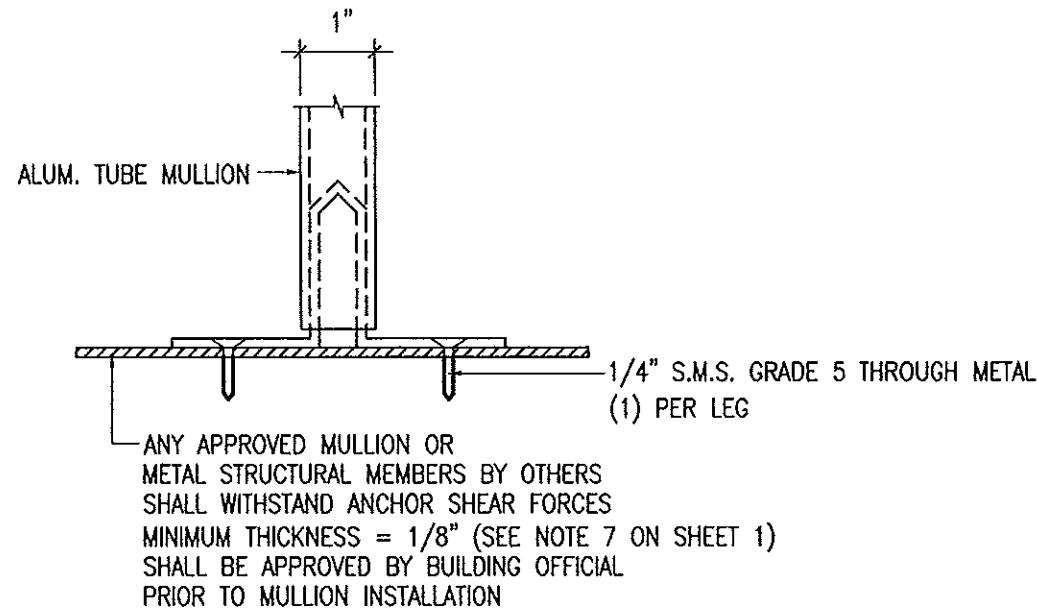
### ANCHOR CONFIGURATION TYPE C1

FOR 1" X 2" OR 1" X 3" MULLIONS  
WITH V1 MULLION CLIP

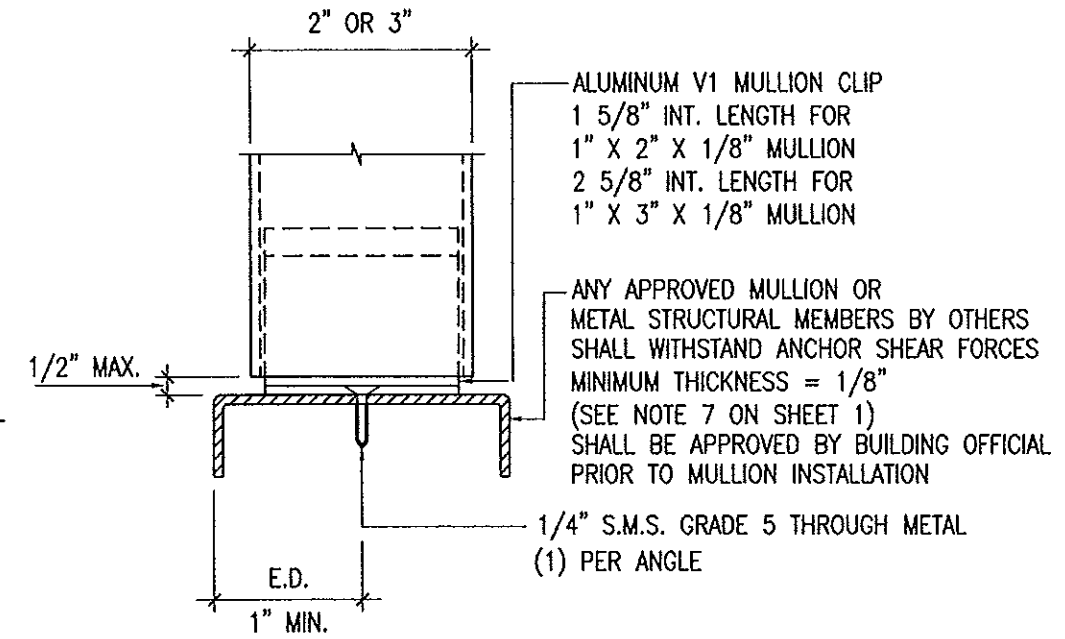
NUMBER OF ANCHORS PER END = 2  
SUBSTRATE: METAL



TOP VIEW



SIDE VIEW A



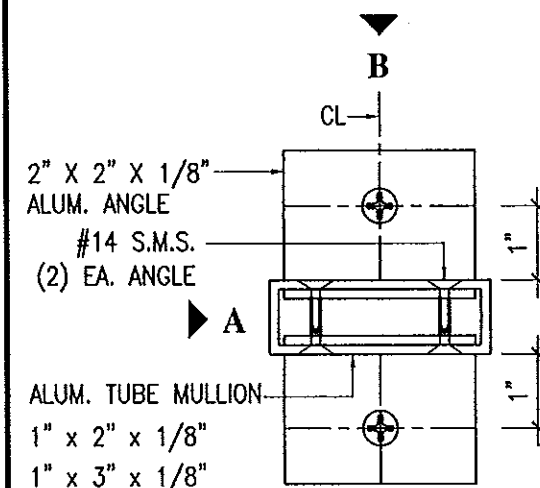
SIDE VIEW B

NOTE: ANCHOR CONFIGURATION TYPE C1 AS SHOWN IS VALID FOR  
MULLIONS 1" X 2" X 1/8" AND 1" X 3" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLE # 2 ON SHEET 4 OF 21.

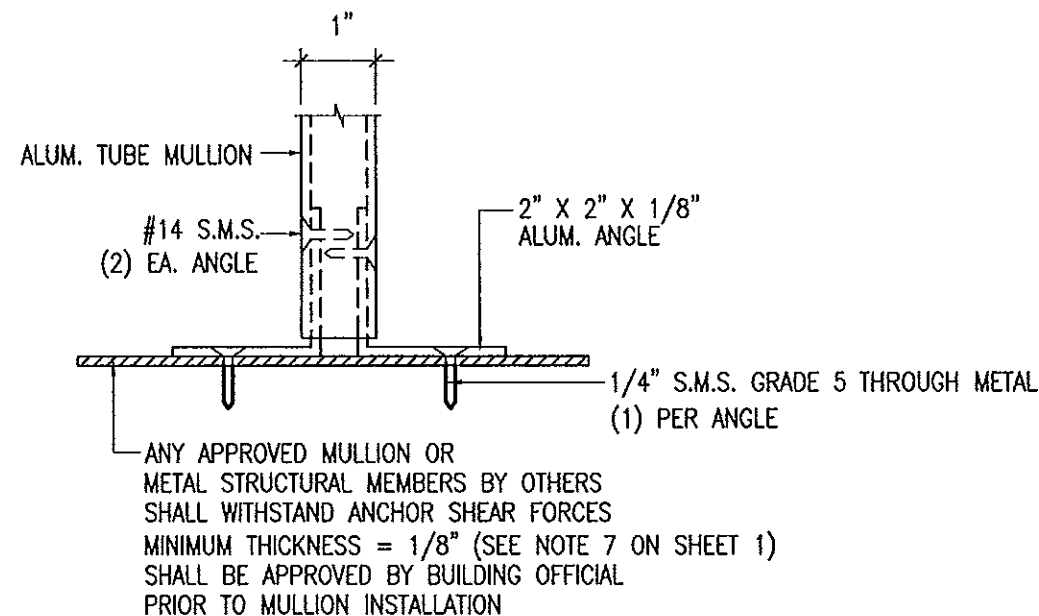
### ANCHOR CONFIGURATION TYPE C1

FOR 1" X 2" OR 1" X 3" MULLIONS  
WITH 2" X 2" X 1/8" ALUM. ANGLES

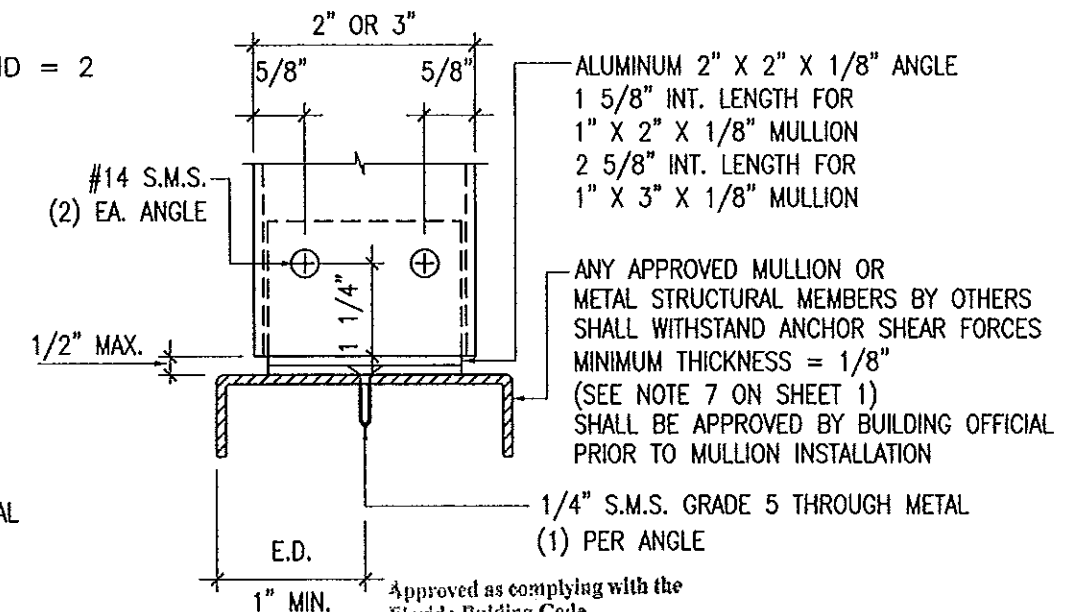
NUMBER OF ANCHORS PER END = 2  
SUBSTRATE: METAL



TOP VIEW



SIDE VIEW A



SIDE VIEW B

NOTE: ANCHOR CONFIGURATION TYPE C1 AS SHOWN IS VALID FOR  
MULLIONS 1" X 2" X 1/8" AND 1" X 3" X 1/8".  
FOR ANCHOR DESIGN LOADS SEE TABLE # 2 ON SHEET 4 OF 21.

Approved as complying with the  
Florida Building Code  
Date: 02-11-13  
NOA# 17-1216-01  
Miami Dade Product Control  
By: Francisco Hernandez

FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

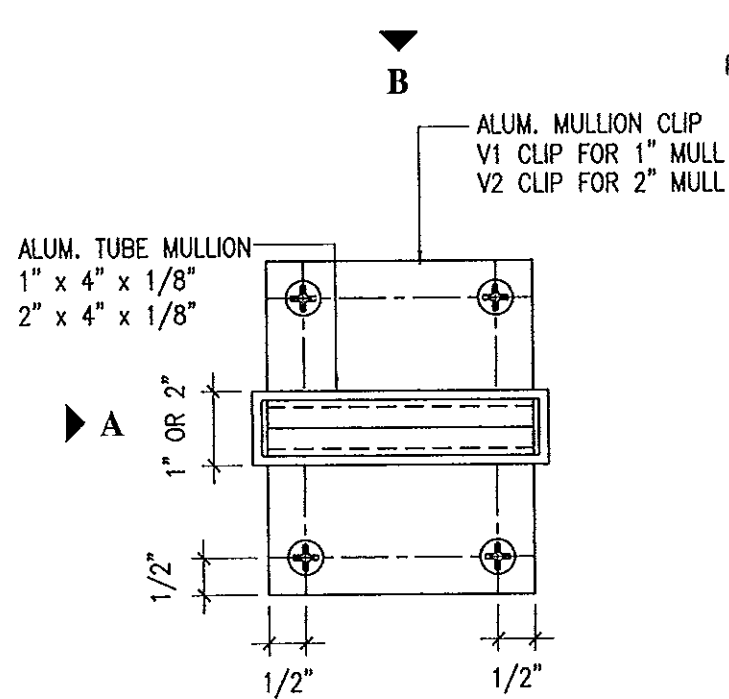
ALUMINUM TUBE MULLION L.M.I.

**Sunshine Windows  
Manufacturing, Inc.**  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

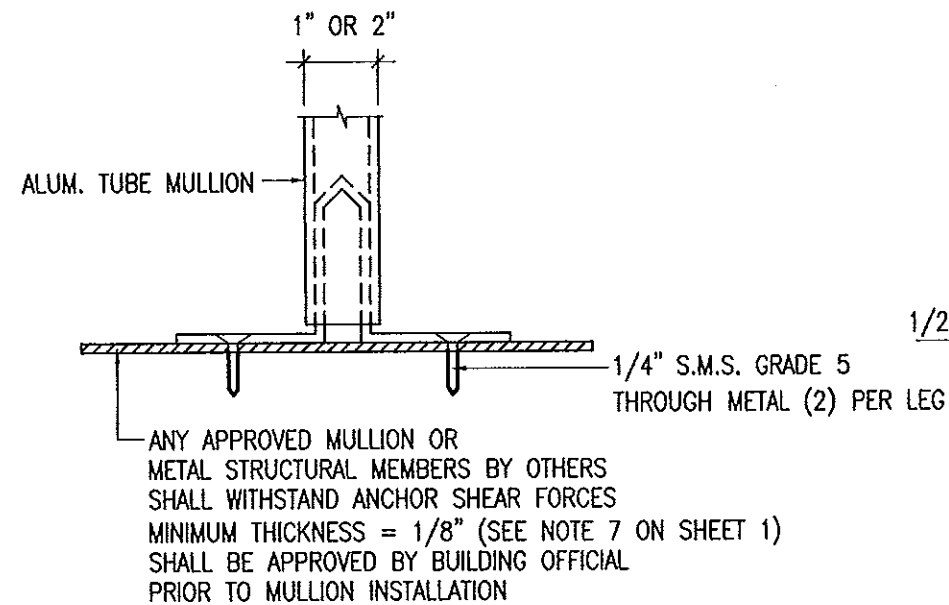
Drawn by: NM  
Date: 02-11-13  
Scale: 3/8" = 1"  
Revision:  
Revision:

DRAWING NO.  
M2011

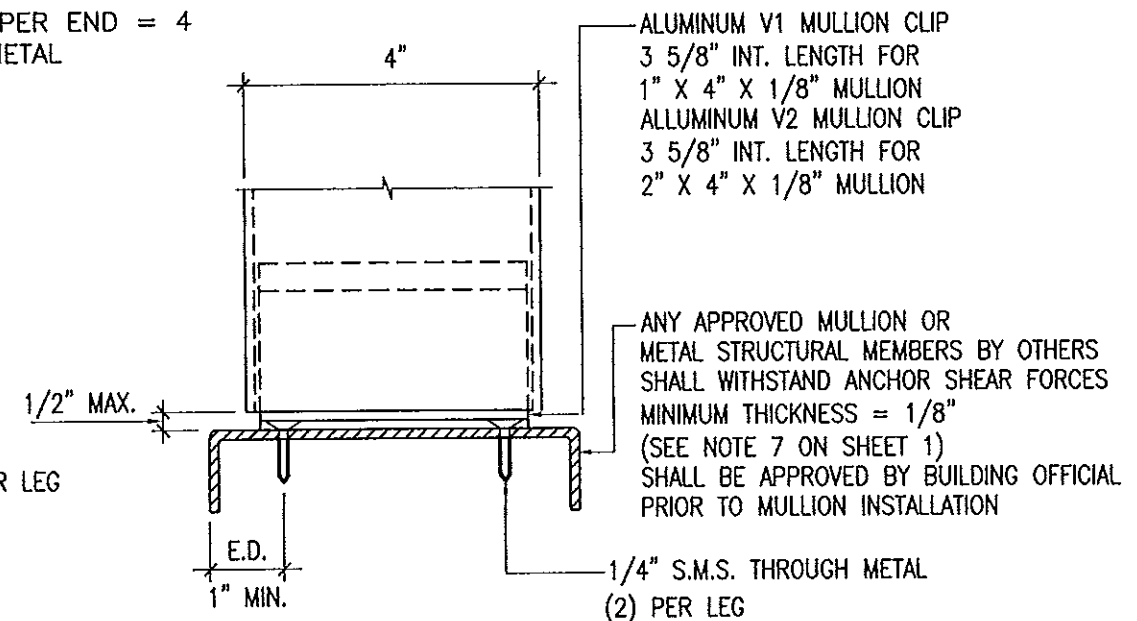
SHEET  
15 OF 21



TOP VIEW

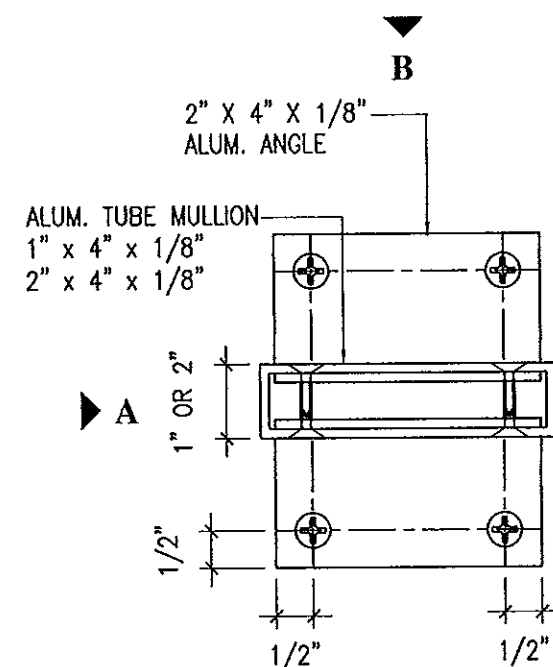


SIDE VIEW A

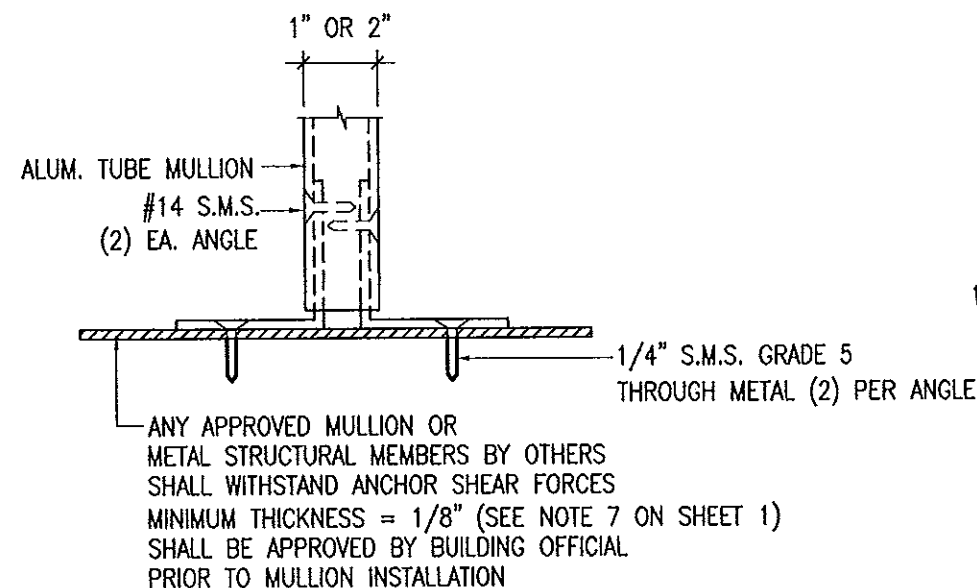


SIDE VIEW B

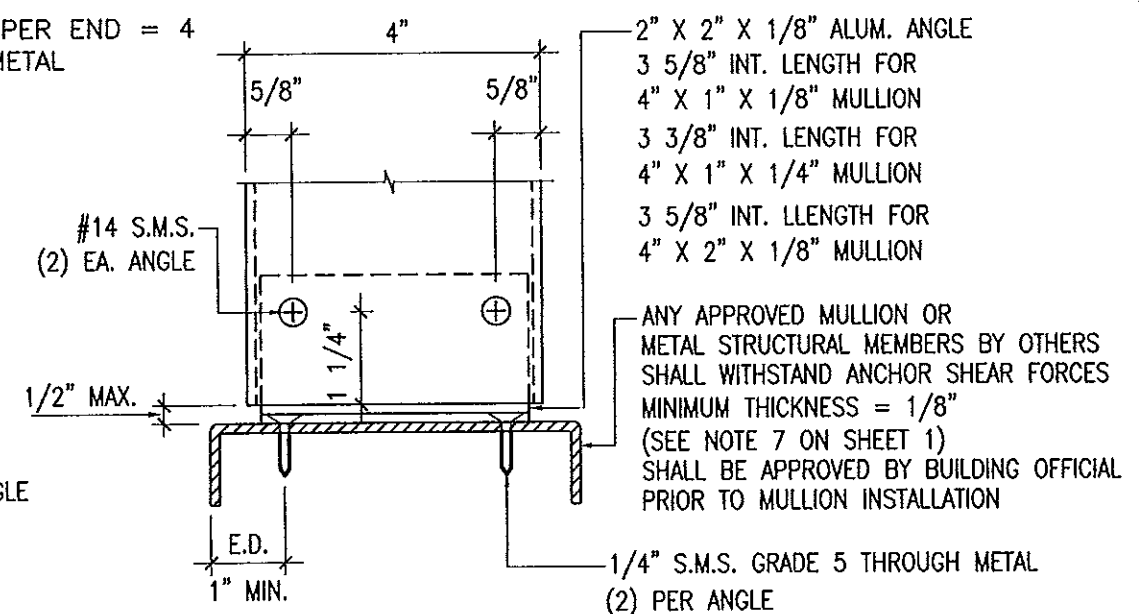
NOTE: ANCHOR CONFIGURATION TYPE C2 AS SHOWN IS VALID FOR  
1" X 4" X 1/8" AND 2" X 4" X 1/8" MULLIONS.  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.



TOP VIEW



SIDE VIEW A

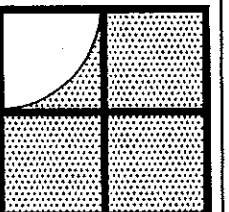


SIDE VIEW B

NOTE: ANCHOR CONFIGURATION TYPE C2 AS SHOWN ON THIS SHEET IS VALID FOR  
1" X 4" X 1/8", 1" X 4" X 1/4" AND 2" X 4" X 1/8" MULLIONS.  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.

Approved as complying with the  
Florida Building Code  
Date: March 12, 2013  
NOAH 11-12-16-12 FRANCISCO HERNANDEZ  
Miami Dade Product Control FLORIDA PE # 51393

By: Manuel Lopez



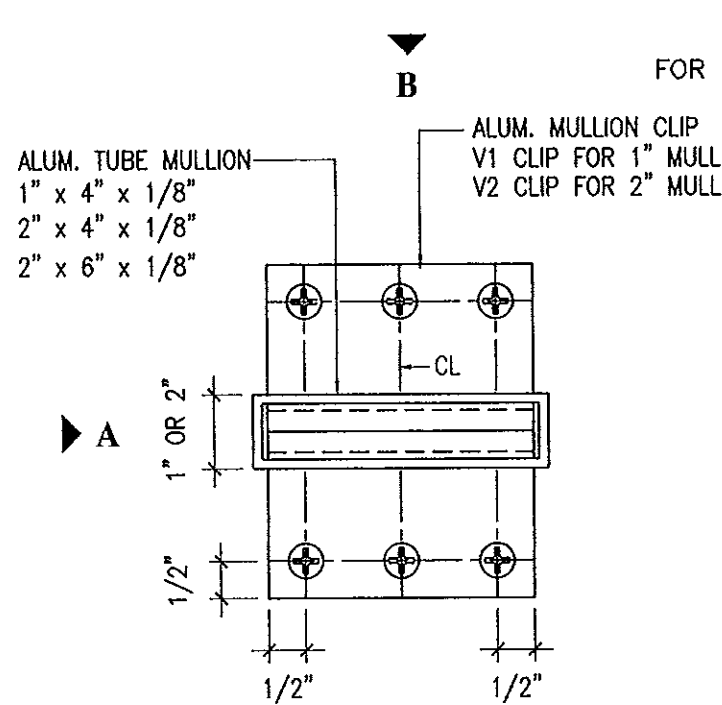
Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 02-11-13  
Scale: 3/8" = 1"  
Revision:  
Revision:

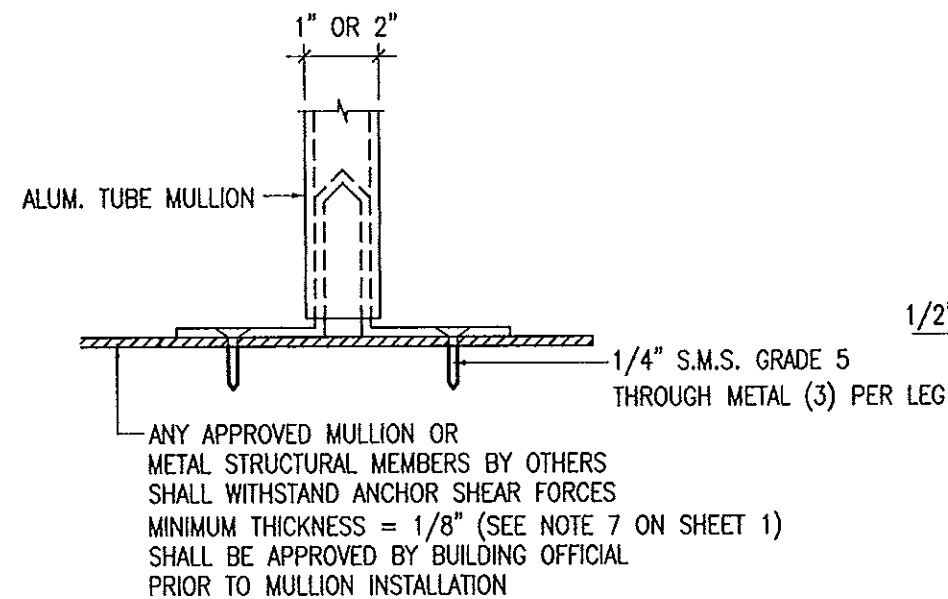
DRAWING NO.  
M2011

SHEET  
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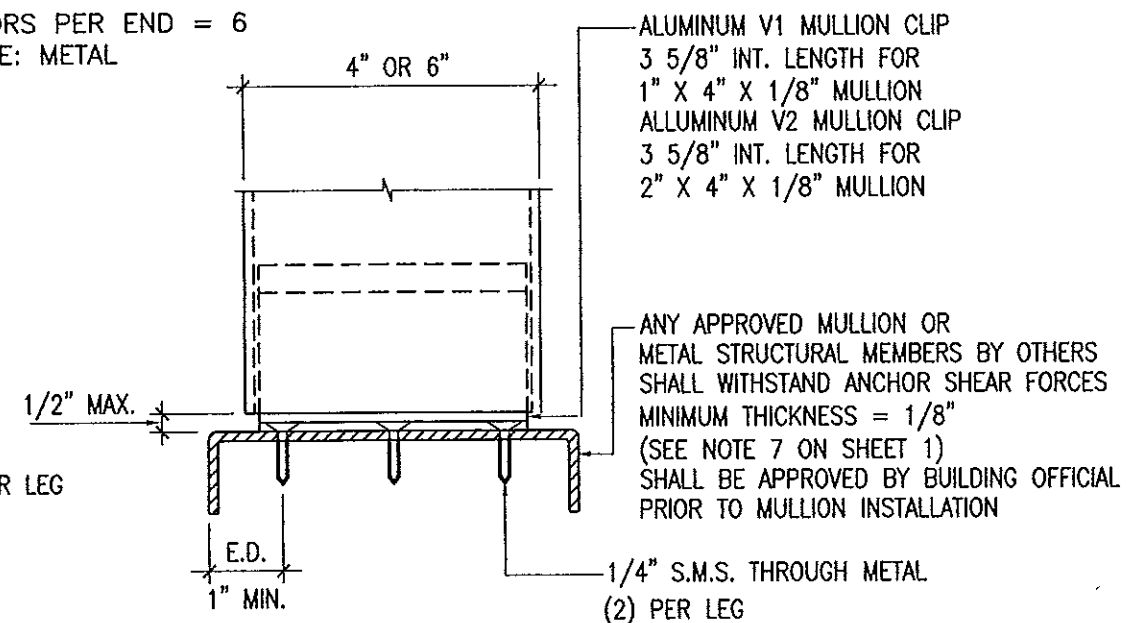


TOP VIEW

**ANCHOR CONFIGURATION TYPE C3**  
FOR 1" X 4", 2" X 4" OR 2" X 6" MULLIONS  
WITH V1 AND V2 CLIPS  
NUMBER OF ANCHORS PER END = 6  
SUBSTRATE: METAL

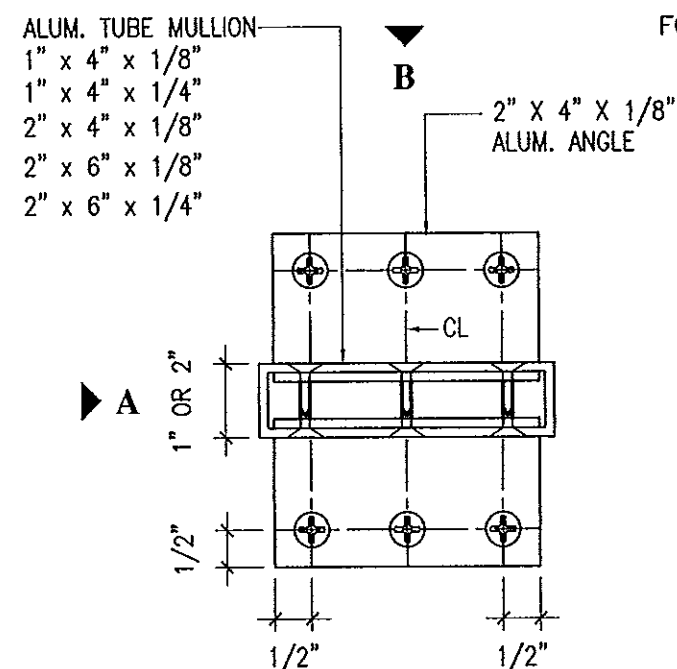


SIDE VIEW A



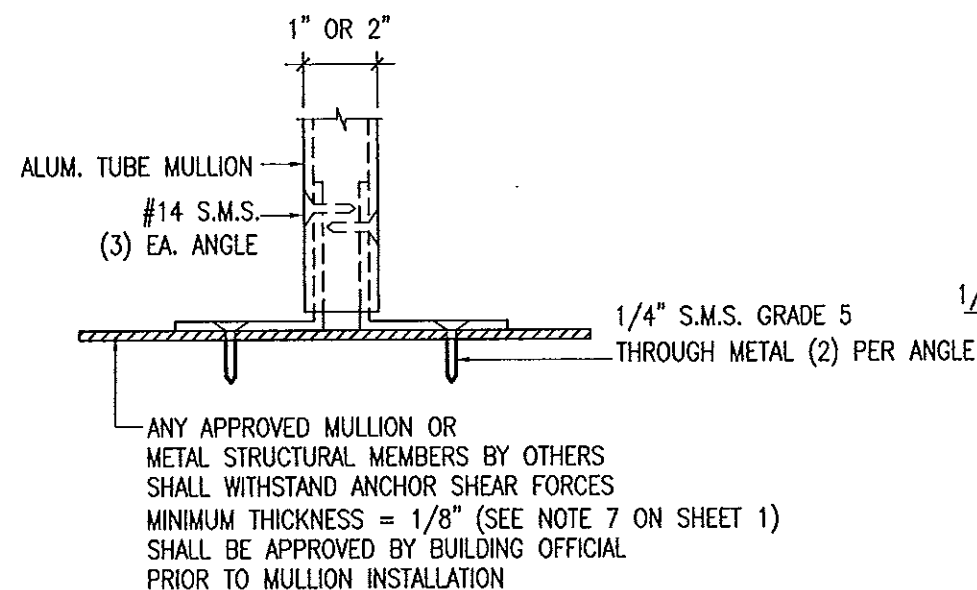
SIDE VIEW B

NOTE: ANCHOR CONFIGURATION TYPE C3 AS SHOWN IS VALID FOR  
1" X 4" X 1/8", 2" X 4" X 1/8" AND 2" X 6" X 1/8"  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.

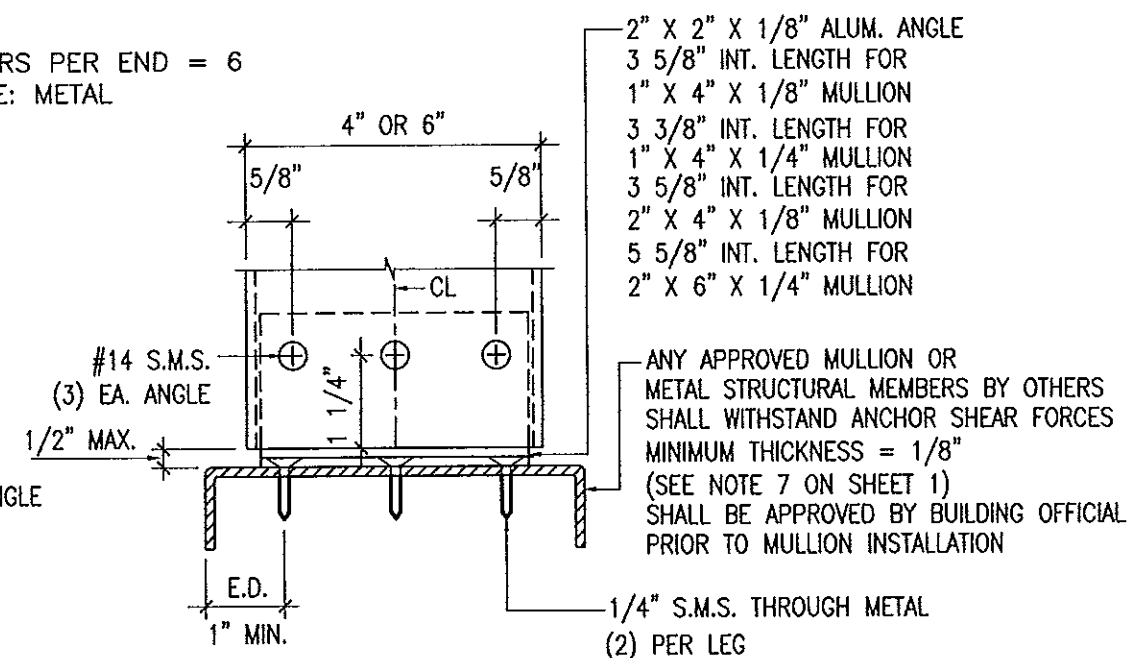


TOP VIEW

**ANCHOR CONFIGURATION TYPE C3**  
FOR 1" X 4", 2" X 4" OR 2" X 6" MULLIONS  
WITH 2" X 2" X 1/8" ALUM. ANGLES  
NUMBER OF ANCHORS PER END = 6  
SUBSTRATE: METAL



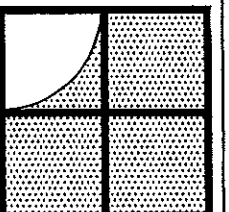
SIDE VIEW A



SIDE VIEW B

NOTE: ANCHOR CONFIGURATION TYPE C3 AS SHOWN IS VALID FOR MULLIONS 1" X 4" X 1/8",  
1" X 4" X 1/4", 2" X 4" X 1/8", 2" X 6" X 1/8" AND 2" X 6" X 1/4".  
FOR ANCHOR DESIGN LOADS SEE TABLES # 2 AND # 3 ON SHEETS 4 AND 5 OF 21.

Approved as complying with the  
Florida Building Code  
Date March 28, 2013 FRANCISCO HERNANDEZ  
NOA# 11-1218-02 FLORIDA PE # 51393  
Miami Date Product Control  
By Manuel



Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 02-11-13  
Scale: 3/8" = 1"  
Revision:  
Revision:

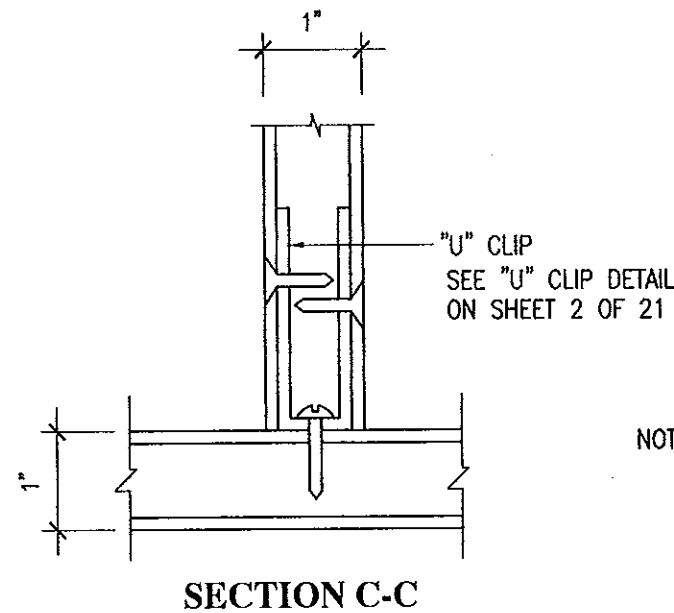
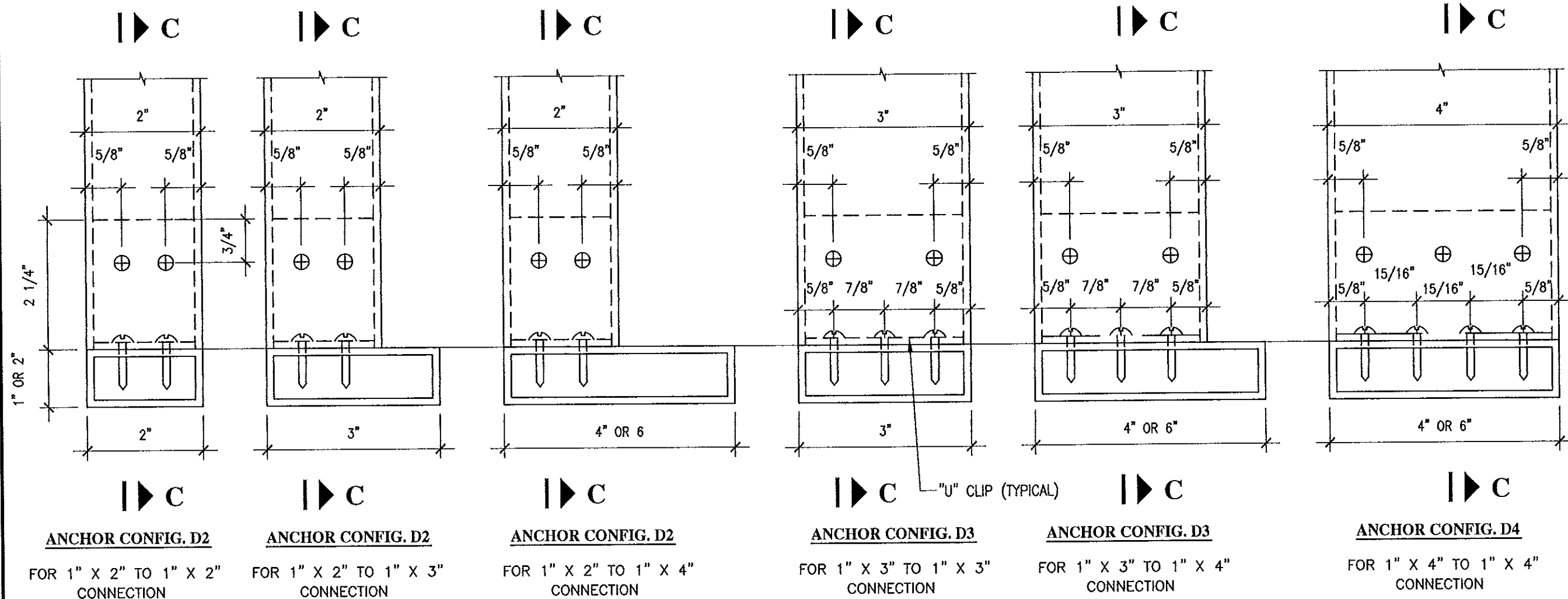
DRAWING NO.  
M2011

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# ANCHOR CONFIGURATIONS D2, D3 AND D4

## MULLION TO MULLION CONNECTION

FOR 1" X 2", 1" X 3" AND 1" X 4" MULLIONS  
WITH U CLIPS SUBSTRATE: METAL



NOTE: ALL SCREWS USED FOR MULLION TO MULLION CONNECTIONS  
SHOWN ON THIS SHEET SHALL BE # 14 S.M.S. GRADE 5.  
FOR ANCHORS DESIGN LOADS SEE TABLE # 2 ON SHEET 4 OF 21.

Approved as complying with the  
Florida Building Code  
Date: March 26, 2013  
NOA# 11-1216-02  
Miami Dade Product Control

By: [Signature]

FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

Drawn by: NM  
Date: 02-11-13  
Scale: 1/2" = 1"  
Revision: \_\_\_\_\_  
Revision: \_\_\_\_\_

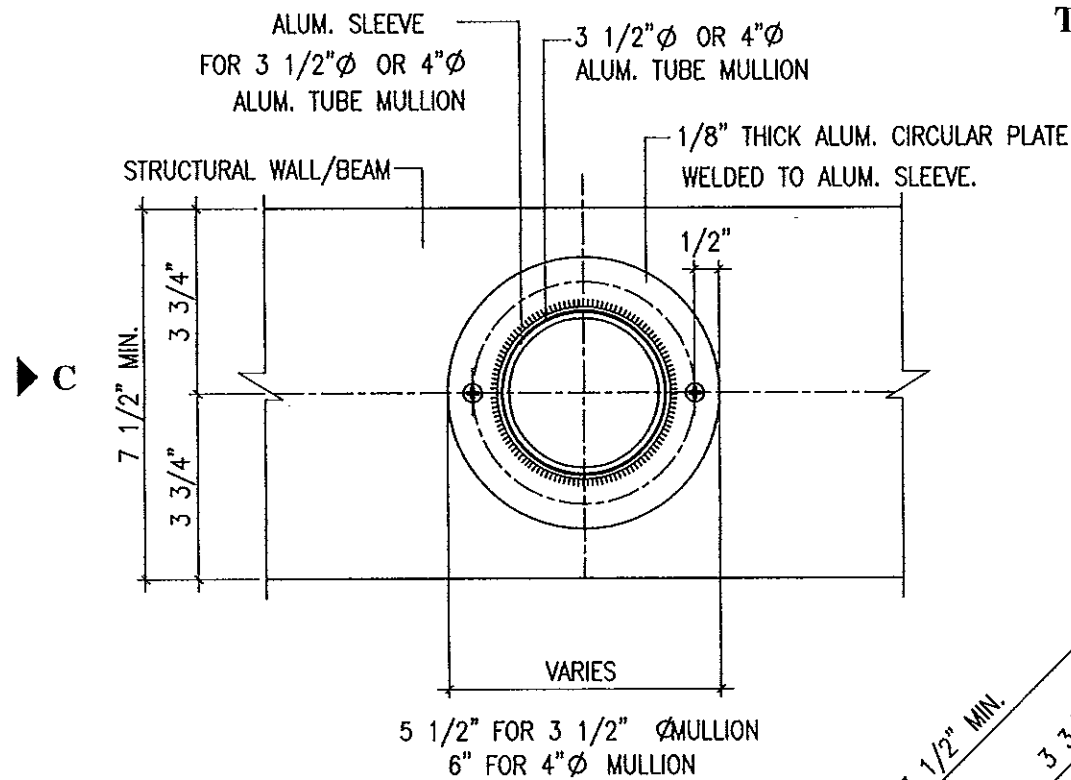
DRAWING NO.  
M2011

SHEET  
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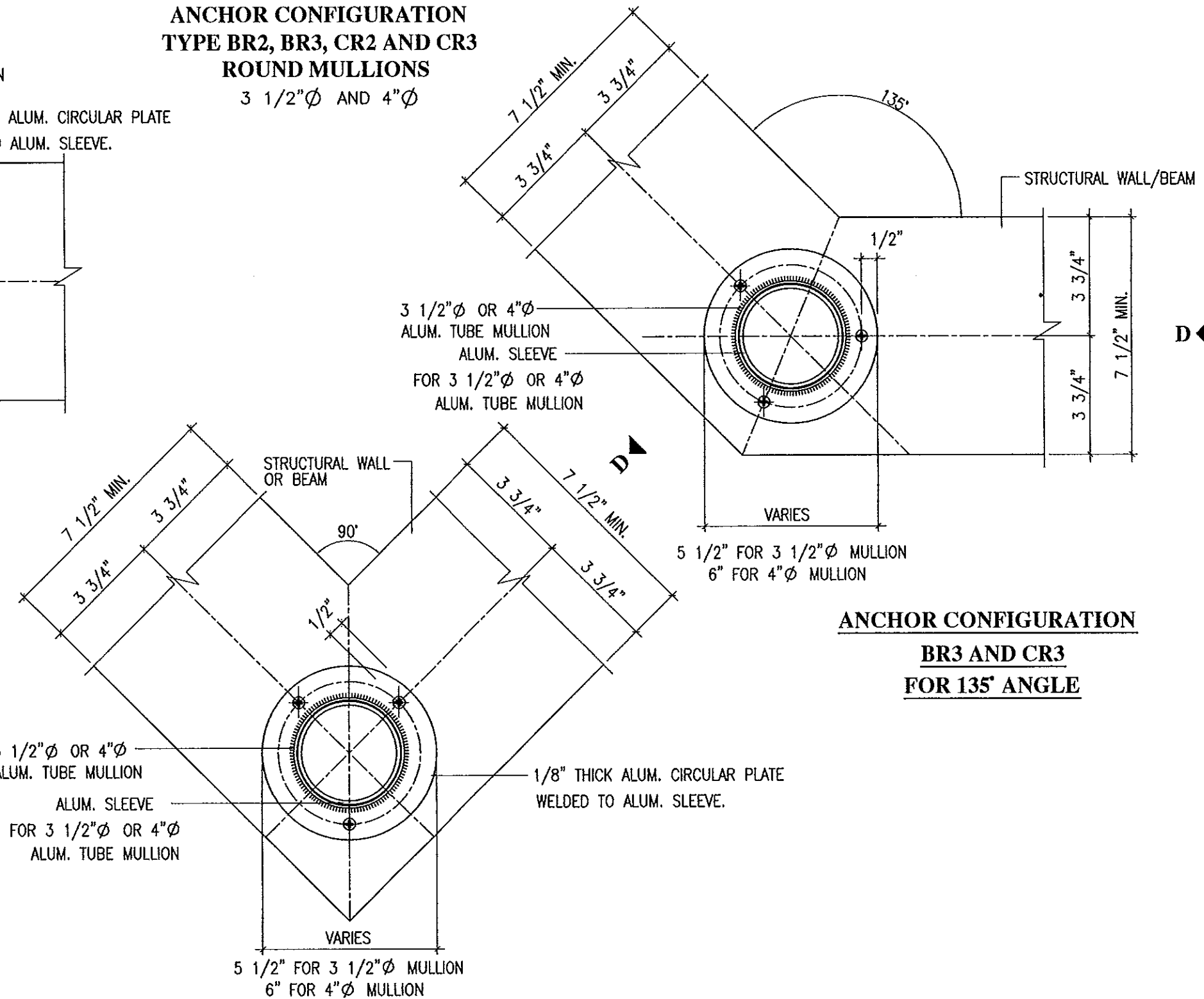
Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

**TOP VIEWS FOR  
ANCHOR CONFIGURATION  
TYPE BR2, BR3, CR2 AND CR3  
ROUND MULLIONS  
3 1/2"Ø AND 4"Ø**



**ANCHOR CONFIGURATION  
BR2 AND CR2  
FOR 180° ANGLE**



**ANCHOR CONFIGURATION  
BR3 AND CR3  
FOR 90° ANGLE**

**ANCHOR CONFIGURATION  
BR3 AND CR3  
FOR 135° ANGLE**

NOTE: FOR MULLION AND ANCHOR DESIGN LOADS SEE TABLE # 4 ON SHEET 6 OF 21.

Approved as complying with the  
Florida Building Code  
Date March 28, 2013  
NOAD 11-1216-02  
Miami Dade Product Control  
By [Signature]

FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

Drawn by: NM  
Date: 02-11-13  
Scale: 1/4" = 1"  
Revision: \_\_\_\_\_  
Revision: \_\_\_\_\_

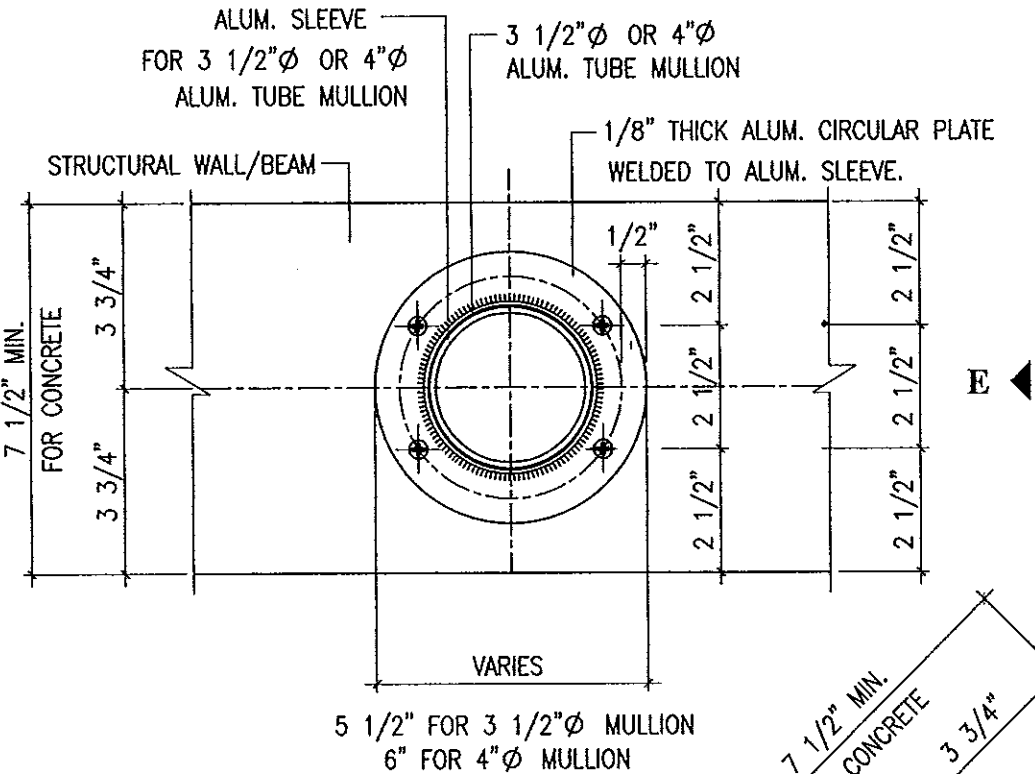
DRAWING NO.  
**M2011**

SHEET  
19 OF 21

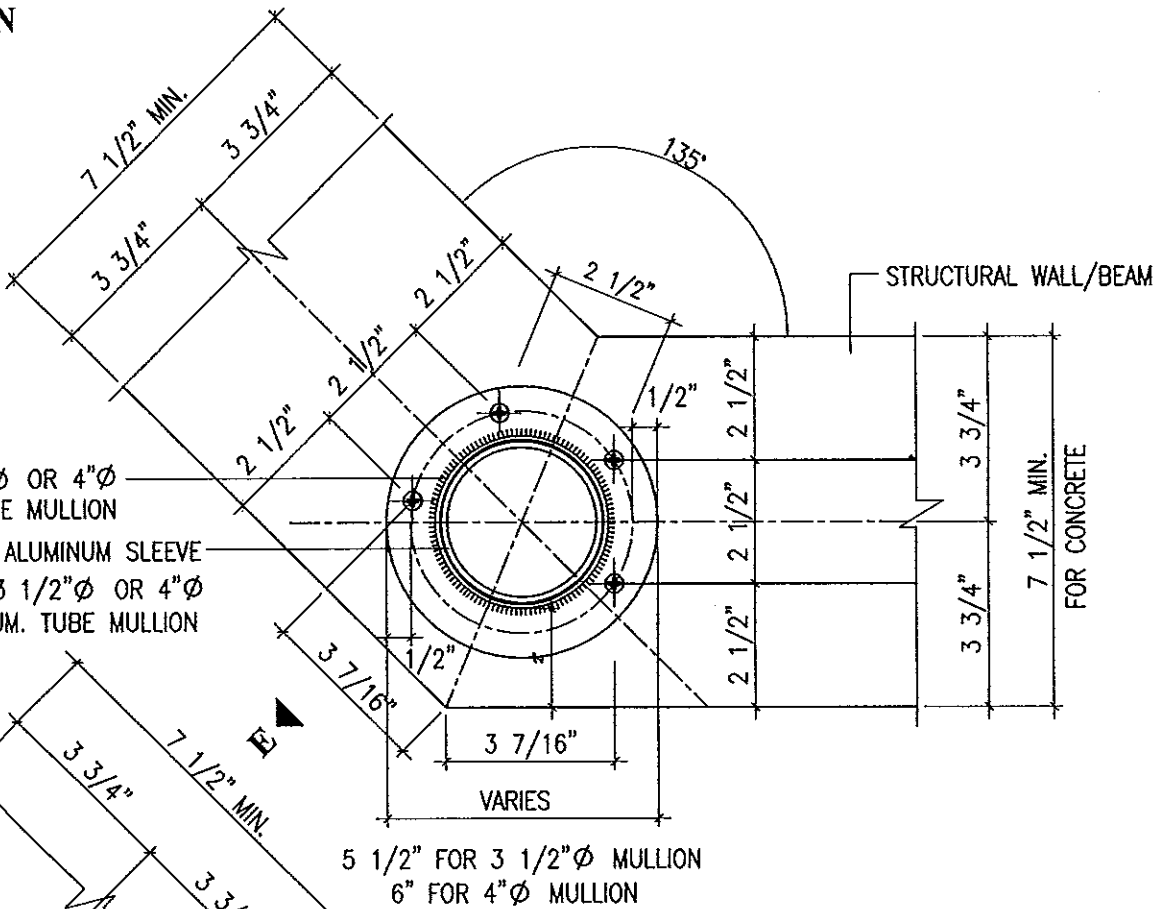
**ALUMINUM TUBE MULLION L.M.I.**

Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

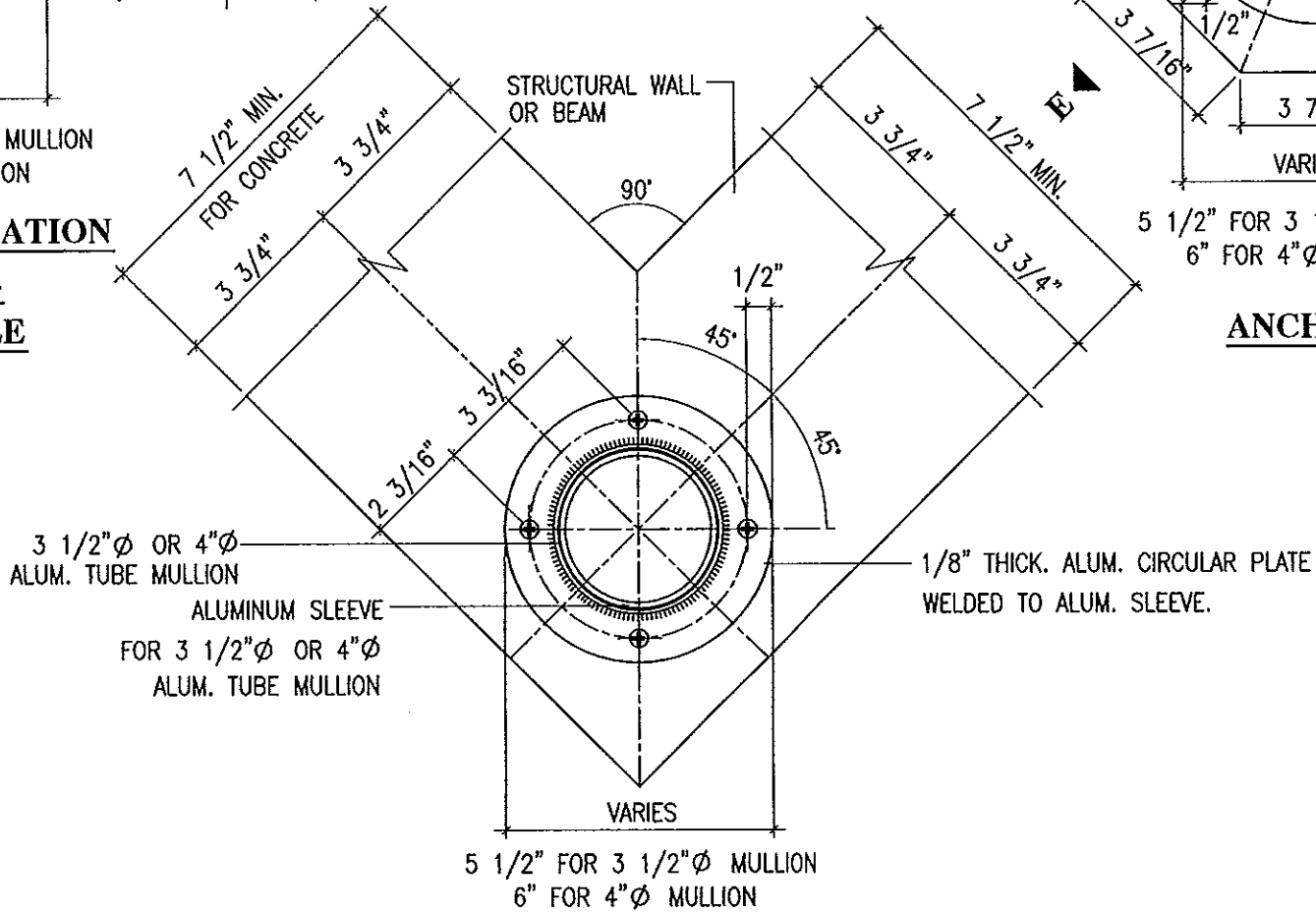
**TOP VIEWS FOR  
ANCHOR CONFIGURATION  
TYPE BR4 AND CR4  
ROUND MULLIONS  
3 1/2"Ø AND 4"Ø**



**ANCHOR CONFIGURATION  
BR4 AND CR4  
FOR 180° ANGLE**



**ANCHOR CONFIGURATION  
BR4 AND CR4  
FOR 135° ANGLE**



**ANCHOR CONFIGURATION  
BR4 AND CR4  
FOR 90° ANGLE**

NOTE: FOR MULLION AND ANCHOR DESIGN LOADS SEE TABLE # 4 ON SHEET 6 OF 21.

Approved as complying with the  
Florida Building Code  
Date: March 22, 2013  
NOAH: 11-1-16-13  
Miami Dade Product Control  
By: *[Signature]*

*[Signature]* 2-25-13  
FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

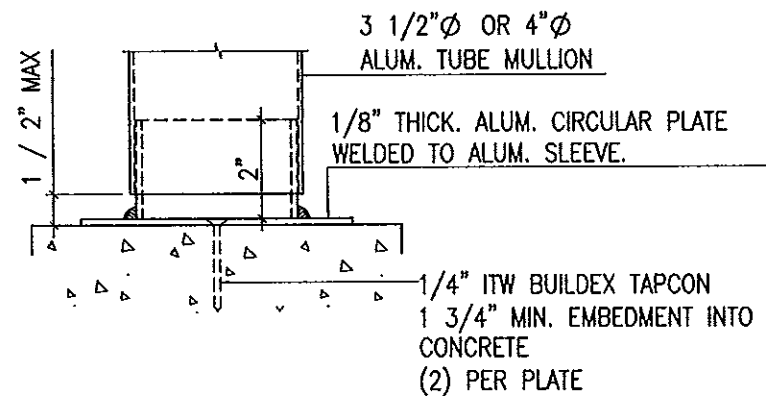
**Sunshine Windows  
Manufacturing, Inc.**  
1745 W. 33rd Place  
Hialeah, Florida 33012  
Ph: (305)364-9952  
Fax: (305)828-5118

**ALUMINUM TUBE MULLION L.M.I.**

Drawn by: NM  
Date: 02-11-13  
Scale: 1/4" = 1"  
Revision:  
Revision:  
DRAWING NO.  
M2011  
SHEET  
20 OF 21

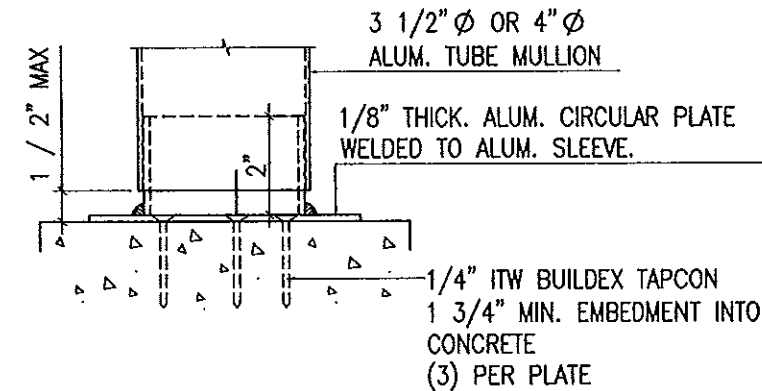


**SIDE VIEWS FOR  
ANCHOR CONFIGURATION TYPE BR2, BR3 AND BR4  
ROUND MULLIONS**  
3 1/2"Ø AND 4"Ø  
SUBSTRATE: CONCRETE



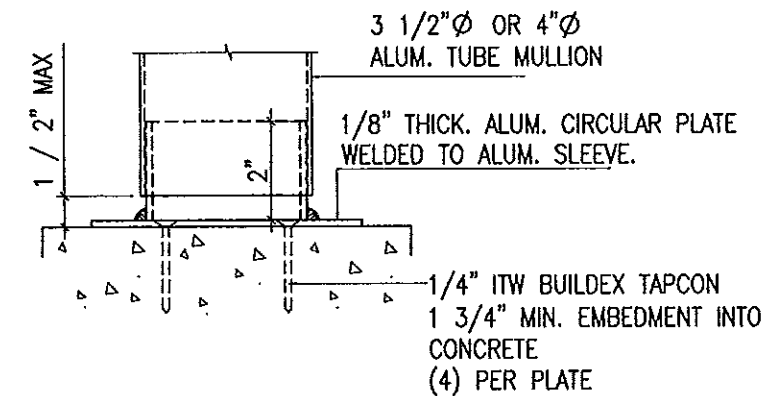
SIDE VIEW C  
**ANCHOR CONFIG. BR2**

NUMBER OF ANCHORS PER END = 2



SIDE VIEW D  
**ANCHOR CONFIG. BR3**

NUMBER OF ANCHORS PER END = 3

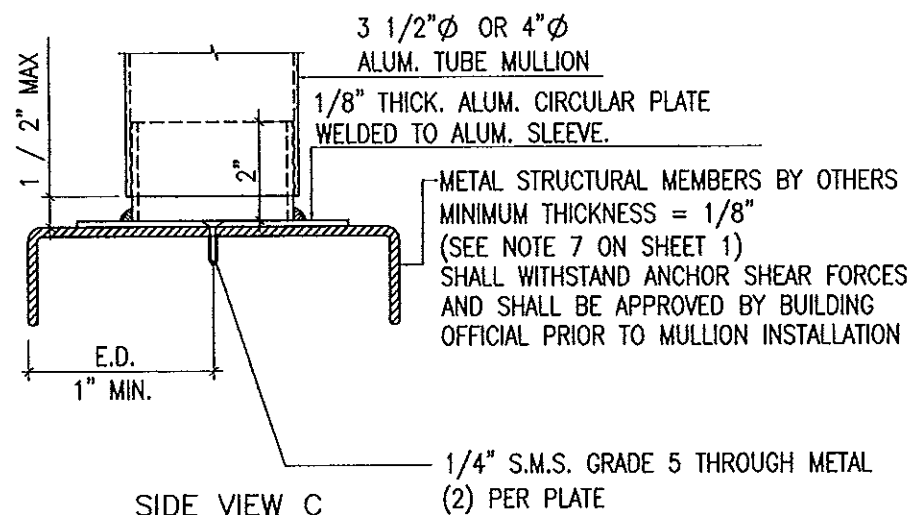


SIDE VIEW E  
**ANCHOR CONFIG. BR4**

NUMBER OF ANCHORS PER END = 4

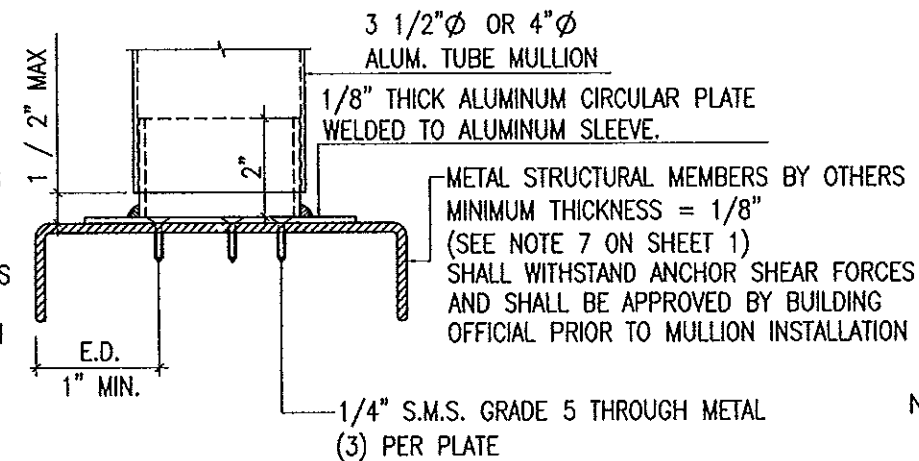
NOTE: FOR MULLION AND ANCHOR DESIGN LOADS SEE TABLE # 4 ON SHEET 6 OF 21.

**SIDE VIEWS FOR  
ANCHOR CONFIGURATION TYPE CR2, CR3 AND CR4  
ROUND MULLIONS**  
3 1/2"Ø AND 4"Ø  
SUBSTRATE: METAL



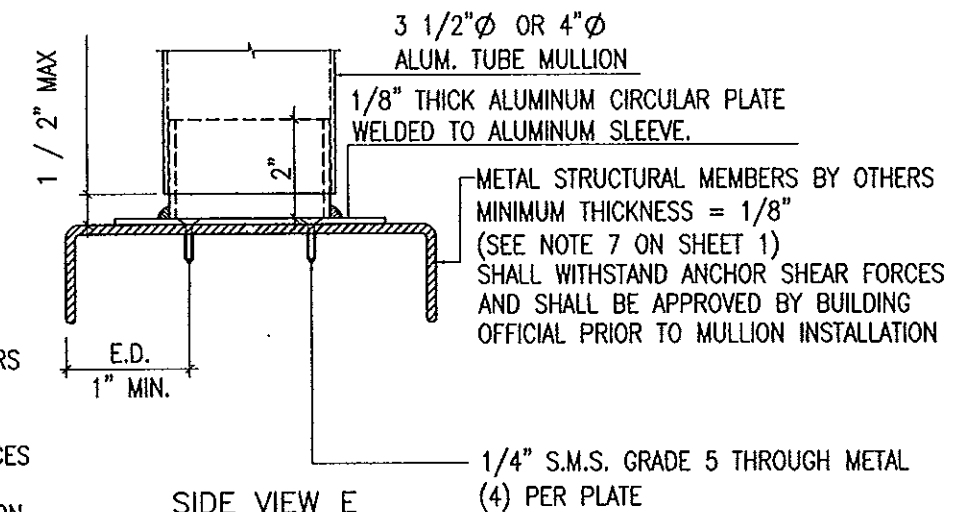
SIDE VIEW C  
**ANCHOR CONFIG. CR2**

NUMBER OF ANCHORS PER END = 2



SIDE VIEW D  
**ANCHOR CONFIG. CR3**

NUMBER OF ANCHORS PER END = 3



SIDE VIEW E  
**ANCHOR CONFIG. CR4**

NUMBER OF ANCHORS PER END = 4

NOTE: FOR MULLION AND ANCHOR DESIGN LOADS SEE TABLE # 4 ON SHEET 6 OF 21.

Approved as complying with the  
Florida Building Code  
Date March 28, 2013  
NOA# 11-116-02  
Miami Dade Product Control

By Francisco Hernandez

FRANCISCO HERNANDEZ  
FLORIDA PE # 51393

Sunshine Windows  
Manufacturing, Inc.  
1745 W. 33rd Place  
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Ph: (305)364-9952  
Fax: (305)828-5118

ALUMINUM TUBE MULLION L.M.I.

Drawn by: NM  
Date: 02-11-13  
Scale: 1/4" = 1"  
Revision:  
Revision:

DRAWING NO.  
M2011

SHEET  
21 OF 21